Valley Farmer.

A Monthly Agricultural Journal, designed to benefit the Planter, Farmer, Gardener, Fruit Grower and Stock Raiser.

VOL. 9. MAY, 1857. NO. 5.

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REAPING & MOWING MACHINES.

MANUFACTURED BY

KINGSLANDS & FERGUSON,

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These machines will cut from TEN to FIFTEEN acres of Grain or Grass in a day, with two horses, and one hand while mowing, and two hands while reaping; will do the work as well as it can be done with a scythe or cradle.

They are recommended as being less difficult to manage, and as possessing more advantages than any other machine now made.

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All orders addressed to the undersigned, will meet with prompt attention.

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THE LATEST PATENT AND THE BEST.

This Drill is Warranted in such a way that no one runs a risk in buying. It may be changed in a moment to sow Wheat, Barley, Oats, Rye, Timothy, Clover and Flax Seed, simply by turning a screw in the end of the box. It has been thoroughly tried in all kinds of ground and under all kinds of circumstances, and has proved to be just the article desired by farmers. A man or boy with a pair of horses can easily put in ten to twelve acres a day, thereby making it a great labor-saving machine. It will also save from one to two pecks of seed to the acre, which, on a hundred and fifty acres will pay for the Drill, and it is almost sure to produce from two to ten bushels more to the acre than broadcast sowing. The Drilled wheat this year, is about the only wheat that looks like making a crop. In fact, it is almost a sure crop. I give a credit on the Drill until January, 1858.

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A few Agents wanted yet to sell these Drills.

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POUDRETTE,

Manufactured from the night-soil of New York city, in lots to suit purchasers. This article (greatly improved within the last two years) has been in the market for eighteen years, and still defies competition as a manure for Corn and Garden vegetables, being Cheaper, more Powerful than any other, and at the same time Free from any disagreeable odor. Two barrels ($3 worth) will manure an acre of corn in the hill, will save two-thirds in labor, will cause it to come up quicker, to grow faster, ripen earlier, and will bring a larger crop on poor ground than any other fertiliser, and is also a preventive of the cut worm; also it does not injure seed to be put in contact with it.

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And at the rate of $1,50 per barrel for any quantity over six barrels.

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We are just in receipt of a lot of this celebrated Hemp Seed, which we are prepared to furnish at $10 per bushel. Its peculiarities are that it flourishes on poor land and produces nearly twice the quantity per acre that the common hemp does. It has been successfully cultivated in Woodford county, Ky., for two years past.

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Artificial teeth inserted by various methods, on pivots on the natural roots, on atmospheric pressure, suction, clasps, or springs,—on solid silver, platina, porcelain, alluminium, guta percha, or in any desired way, to suit the inclinations, the purse and the pleasure of those who may require.

Fifteen years of active practice in this city and the city of New York, will warrant me in saying that the whole resources of the Art will be employed in the just perfecting of any work entrusted to me. Mar.1y.

GRAIN THRESHING MACHINES FOR 1857.

Secure a good one in time, and do not be satisfied with an inferior article, when the VERY BEST KIND now known can just as easily be had by sending in orders to us EARLY IN THE SEASON. The best machines are those which do most work and do it the best with the least power, and which are in their parts strong and durable and simple in their construction, will always be the cheapest in the end. These can be procured at our establishment until our stock on hand and capacity for manufacturing (which is very large) is exceeded by the demand, which has every season been the case after harvest—

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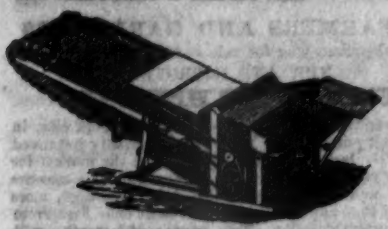

PATENT SEPARATOR.

PITT'S PATENT

SEPARATOR.

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(TWENTY MILES NORTH OF CINCINNATI.)

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3d. Doing the largest amount of work with the least expense of time, labor and power.

4th. Great simplicity and strength of construction, having less complicated machinery to get out of order, combined with the strongest and most durable materials for all the different parts, and the utmost perfection of workmanship.

Any of our machines can easily be hauled on a common two-horse wagon and kept on it when threshing, thus saving the labor of loading and unloading.

The Celebrated Moffit Machine,

Of which we make the sizes for 4, 6, or 8 horses, has recently been much simplified and improved, and we can confidently offer them as not to be surpassed by any other machines, either by fast and clean threshing, light running and durability. The original machine, patented in 1852, has never been beaten in fair competition. In 1853, it bore off the prize at the Crystal Palace Fair in New York; at four State Fairs in Ohio it has taken the first premiums, and last it was awarded the first premium by the Agricultural and Mechanical Association of Kentucky at their fair.

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Pitt's Patent Thresher and Separator,

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The machines we shall make we guarantee to be fully equal, and in many respects superior, to those manufactured at any other establishment in the country.

The Horse Powers furnished with our machines are the celebrated Double Pinion Powers, bing the strongest, most light running and durable in use. Extra wagons, straw stackers, chaff stackers, &c., will be furnished at the lowest rates, when desired.

With the different sizes of these two justly celebrated machines to offer our our customers, we can defy the world to beat us in competition. Our establishment is well located, 20 miles north of Cincinnati, on the Hamilton and Dayton Railroad, convenient to ship on the Ohio river and on all the leading thoroughfares West or South. We also manufacture

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And Machinery of various kinds, for Paper, Flouring or Saw Mills, also Parker and other Reaction Water Wheels.

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VALLEY FARMER

N. J. COLMAN, Editor and Publisher, Saint Louis, Missouri.

H. P. BYRAM, Editor and Publisher, Louisville, Kentucky.

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ELECTRICITY---LIGHTNING RODS.

As no class of persons are more exposed to the dangerous effects of lightning than farmers we propose to offer some remarks on Lightning Rods—the proper method of arranging them, and to point out some of the errors too often committed by ignorant pretenders in the manner of erecting them upon their dwellings and barns.

Before entering upon the subject of lightning rods, it may not be uninteresting to our young readers at least to say something upon the wonderful and varied phenomena of electricity.

Electricity is an extremely subtle fluid which always pervades certain bodies in a greater or less degree, the nature and properties of which are still involved in great mystery. Artificial electricity has long been the subject of many interesting experiments, but the honor of establishing the identity of electricity and lightning remained to be accorded to the great American Philosopher, Benjamin Franklin.

Electricity is excited by the friction of the hand or woolen cloth upon a glass tube, a stick of sealing wax and other resinous substances, sulpher, amber, &c. It was with these materials that the first experiment with electricity was made. These together with silk, feathers, &c., have their pores so very close that electricity is slow to penetrate and slow to leave them, and are consequently poor conductors.

Another class of bodies whose pores are open such as water and other liquids, animals and all metals are good conductors of electricity. Other bodies, such as wood, several kinds of stone and earths occupy an intermediate state between the two principle classes we have mentioned. The air which surrounds us differs materially from these substances, and its capacity to communicate electricity depends entirely upon the quantity of vapor or moisture it contains. Men and animals, in their natural state, contain more or less of this substance. If, on a cold, clear night, you draw your hand over the back of a calf or a cat electric sparks will be emitted and if the hair of the animal be black the sparks are distinctly visible. In modern times our schools and colleges are supplied with electrical machines of more perfect construction, by which all the phenomena of natural thunder and lightning are produced, though upon a miniature scale. These are of glass, made in the form of a cylinder, or of a circular plate, which are hung upon an axis and turned like a grindstone, while a piece of woolen cloth is held in close contact with it. By this means it becomes fully charged with electricity. If a person be seated upon a chair or stool, the legs of which are placed upon some non-conducting material, like glass or wax, and he be brought in connection with the machine by means of a chain or wire, his body may be so fully charged with electricity that sparks, (lightning,) will issue from him, and if another person extend his hand near him, the electricity in passing from the person charged to the other will cause acute pain to both. The shock may be made so powerful as to lead to fatal consequences. But as experiments of this kind are usually conducted, the only effect on the person surcharged is an acceleration of the flow of the blood and a free perspiration. The person thus charged if placed in the dark, his body will be observed to be surrrounded with a halo of light. This is caused by the gradual escape of the electricity into the surrounding air.

There are various other ways of producing artificial electricity, and it is sometimes em-

ployed as a mechanical agent. The electric telegraph is an instance in which lightning is manufactured and directed at the will of man to communicate intelligence under the sea and over the land to the remotest parts of civilization. The honor of first successfully employing this wonderful agent, for this purpose, also belongs to an American citizen—Professor Morse. And we predict, at no distant day, that the nature of electricity will be better understood and will be employed as an economical mechanical motor, and in a great degree supercede the use of steam.

In making his experiments upon electricity the great desire of Franklin was to discover some means by which it could be made useful to mankind. The experiments by which he realized in some degree his wish, in the invention of the lightning rod are not without interest to the young reader. He suspended a large conductor by silk lines from the ceiling of his room and charged it with electricity, so as to enable it to give a spark at the distance of two inches, strong enough, as he said, "to make one's knuckles ache." When presenting the point of a needle to the conductor, at more than a foot distant, no electricity would be retained upon it; all passed off by the needle as fast as it was supplied. If in the dark, the light was visible on the point of the needle. He also represented an electrified cloud by suspending a pair of brass scales with a beam two feet long. The cords of the scales being silk, he suspended the beam by a hemp twine from the ceiling, so that the bottom of the scales were about one foot from the floor; the scales would move round in a circle by the untwisting of the twine. He then set on end an iron punch, about one inch thick, on the floor so that the scales would pass over it in making the circle, then electrifying one scale by applying the wire of a charged machine to it. As they moved round the scales were attracted by the punch and would discharge their fire into it. He then set a needle on the end of the punch, its point upwards; the scale instead of drawing nigh to the punch and snapping, discharged its lightning silently through the point, while the scale rose higher from the punch, showing that pointed steel will draw off the electricity at a greater distance than a piece of blunt metal will. In this interesting experiment the scales and ceiling represented the clouds, and the ease and silence with which the electric fluid was drawn off by the pointed needle suggested to the mind of the sagacious philosopher the idea of lightning rods. For says he, "If these things are so, may not the knowledge of this power of points be useful to mankind in preserving houses, churches, ships, &c., from the strokes of lightning, by directing us to fix on the highest parts of these edifices upright rods of iron, made sharp, and gilt to prevent rusting."

Franklin sent an account of this and other experiments and suggestions, illustrating similar views, to London, which were read before the committee of the Royal Society. These ideas were then regarded by these wise men as wild and absurd and were received with laughter and not considered worthy of being placed in the "Philosophical Transactions." But they were soon verified and were subsequently published in London and went through several editions.

In June, 1752, Franklin, in order the more clearly to establish his theory of lightning, made the following interesting experiment.—He made a small kite in the form usually adopted by the boys at the present day, but instead of paper he used a silk handkerchief that it might not be injured by the rain. The tail, loop and string were attached in the usual form. To the top of the upright stick or "back bone" of the kite he fixed a sharp pointed wire rising a foot or more above the wood.

To the end of the twine next the hand he tied a silk ribband, (silk, as we have said, being a non-conductor, prevented the electricity from descending to his hand,) and where the silk and twine joined he fastened a key. When he discovered the approach of a thunder gust, accompanied only by his son, he repaired to the fields, near Philadelphia, and sent his silent messenger to the clouds.

He then stationed himself under a shed so that the riband held in his hand, might remain dry and prevent the passage of the electricity to his hand. As soon as the cloud came over and the twine became wet with the rain, the electric fluid was attracted by the pointed wire and descended the string to the key, causing the filaments of the twine to stand out in every direction. He then applied his knuckle to the key which at once emitted sparks or lightning, freely. He then collected the fluid in a vial out of which electric sparks were obtained that set fire to spirits and other combustible materials, and many other electric experiments were performed the same as those with the use of the common electrical machines of the present day. This established in the mind of the American philosopher the identity of lightning and artificial electricity.

He also erected on his house in Philadelphia an iron rod which he brought in communication with a series of bells in his room, and when the electricity was attracted by the rod it caused the bells to ring and warn him of the opportunity to continue his experiments. By these experiments he also ascertained that there were two kinds of electricity,—one he termed *positive* and the other *negative*, but he found that the clouds were more frequently charged with the positive kind, while the earth is generally negatively charged; hence discharges of lightning from the clouds to the earth frequently take place. It is also asserted that in certain electrical conditions of the two, lightning will sometimes ascend from the earth to the clouds. We once saw a tree under a high bluff that had been shattered in this way, as was evident from the appearance of the splinters and numerous fragments produced by it.

Electricity accumulates in greater intensity at prominent points; the negative electricity of the earth is greatest at mountain summits, clouds, as we have said, being in general charged with positive electricity, an attraction will consequently be exerted upon and round such summits.

Thunder never proceeds from a solitary isolated cloud. But when two clouds appear one below the other, and one containing a greater quantity of electricity than the other, the electricity in the one most fully charged, in seeking an equilibrium, will pass from that cloud to the other and in its passage through the intermediate air, which is not so good a conductor as the cloud, an explosion takes place, producing all the phenomena of lightning and thunder. It is under similar circumstances that trees, men, houses and other terrestrial bodies are struck with lightning

There is always more or less time intervening between the periods when the flash of lightning is observed by the eye, and the sound of the thunder reaching the ear. This is owing to the fact that light travels faster than sound. Light is communicated at the rate of 200,000 miles in a second of time, and sound in ordinary conditions of the atmosphere is estimated to travel only at the rate of 1,100 *feet* per second. The distance that a thunder cloud is from us may be estimated by the number of seconds that elapse between the time we see the flash and hear the thunder. Thus if five seconds elapse the distance will be 5,500 feet, for six seconds 6,600 feet, &c.

There are numerous other phenomena connected with electricity, with which the light of science has made us familiar, which are extremely interesting, as well as much that still remains enveloped in mystery, to which we should be pleased to refer, did the object of our present design and the nature of our publication warrant it.

In our next number we will speak more particularly of Lightning Rods—their proper construction, erection, &c.

GERMINATION OF SEEDS.

In a former number, we said something on the subject of "Seeds and Seeding." It may not be uninteresting to some of our readers to offer some remarks on the mysterious phenomena of the germination of seeds and the development of plants.

Since the period when God said, "Let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit after his kind whose seed is in itself," plants have been multiplied by seeds. The vitality of many kinds of seeds, under certain circumstances, will remain unimpaired for an indefinite period of time.—For instance, wheat has been found in a mummy case which must have reposed at least 3000 years, and when planted was found to retain in full vigor all its vital powers. So, also, we must suppose that seeds remain unchanged for ages in the soil, and only vegetate when brought within the influence of certain required agencies. These are *heat, moisture and air.* When the soil of the prairies or of the forest is broken up, and the vegetation occupying the surface becomes decomposed, seeds that have slept for ages in the soil, now receivethe revivifying influence of these agencies and spring into life, covering the earth with varieties of entirely different growth from those which previously occupied the ground. If a forest of native pines be removed and the soil left undisturbed, oaks and other kinds of trees will spring up in their place; or if a forest of oaks be cut down, pines will come up. Thus nature indicates that one species of vegetation should succeed another, which suggests to the intelligent farmer the importance of a rotation of crops.

We have said that the necessary agencies for the germination of seeds and the growth of plants are heat, moisture and air. In order to secure these in due proportion several considerations are to be regarded in planting: first, the character and mechanical condition of the soil; second, the proper time of planting, and third, the depth the seeds should be covered.

These vary with the varieties. Some kinds possess a higher degree of excitability and vegetate in a lower temperature than others and require to be planted early. If seeds are planted too deep they do not receive sufficient heat and air and consequently do not vegetate; if planted too shallow they frequently fail to grow for want of moisture. Experiments have been made with some of the most important farm crops in order to ascertain the proper depth that the seeds should be covered. We give the following experiment which has been made with wheat in England:

Seeds sown to the depth of	Came above ground in	Proportion of plants that came up
1-2 inch	11 days	1-8
1 "	12 "	all
2 "	18 "	7-8
3 "	20 "	6-8
4 "	21 "	4-8
5 "	22 "	3-8
6 "	23 "	1-8

Showing that two inches is the most proper depth to cover wheat. This however will vary some with the character of the soil, whether light or heavy.

The following table will also show, under favorable circumstances the time required for certain seeds to germinate,

	NUMBER OF DAYS.
Wheat, Millet, - - -	1
Spinach, Beans, Mustard, - -	3
Lettuce, Aniseed, - - -	4
Mellon, Cucumber, Cress seed -	5
Raddish, Beet seed, - - -	6
Barley, from - - -	4 to 7
Parsley, from - - -	40 to 50
Almonds, Chestnut, Peach, - -	1 year
Rose, Hawthorn, Filbert, - -	2 "

The well-matured seed not only contains in itself the embryo of a new plant, but food sufficient to sustain the young plants until the roots have penetrated the soil, and its leaves have expanded above ground and are enabled to draw its nourishment from the great storehouse of nature.

The embryo when examined with the microscope, is found to possess all the parts of a perfect plant, in miniature, ready for development as soon as it is brought within the agency required for its growth. When seeds are first committed to the soil under the conditions specified, the first symptom of germination is the prolongation of the *radicle*, directing its extremity downwards into the soil and forming the future root. The next part of the process of germination is the development of the plumelet, or first real leaf from within the *cotiledons* (seed lobes) and its expansion into the open air. This is succeeded by the rudiments of the stem which completes the form of the plant.

The food which a seed contains for the nourishment of the young plant are starch, gluten and albumen. But this food is not yet fitted for the immediate nourishment of the embryo. Some previous preparation is necessary, some change must be effected in its properties. This is the result of chemical agency. The moisture imbibed by a seed placed in the earth is immediately absorbed by the cotiledons, which operating upon the substances we have named contained in the seed, a chemical change at once takes place, dissolving a portion of the substances above named, viz: starch, gluten and albumen, a slight fermentation follows, converting the starch, &c., into sugar or a mild saccharine food, fit for the nourishment of the infant plant. The radicle gives the first indication of life, expanding and bursting its integuments, and at length fixing itself in the soil; the plumulet next unfolds its parts, developing the rudiments of the leaf, branch and trunk, and finally the seminal leaves decay and drop off, the embryo having been converted into a plant, capable of extracting immediately from the soil and atmosphere the nourishment necessary for its future growth and maturity.

IMPORTANCE OF LAND DRAINING

We have recently traveled over considerable portions of the country and noticed in many places that the wheat crop has been more or less winter-killed. This is owing, in the first place, to late sowing, in consequence of the dry, unfavorable weather at the proper time of sowing; and when winter set in the plants were small, with weak, slender roots; the earth has since been filled with moisture, and the succeeding frosts have, in some unfavorable locations, entirely killed out the wheat.

The corn crop is a very important one to the American farmer, and from the last extremely dry season, we may reasonably look for a wet spring and summer. Upon the flat and otherwise wet lands, corn is usually retarded in its growth several weeks in consequence of the excessive moisture in the soil during its early growth. Corn is a tropical plant and requires great heat to insure a quick and vigorous growth, but while the excess of water is passing off by the slow process of evaporation, the natural warmth of the soil is reduced thereby, eight or ten degrees, and the consequence is, for the first month or more the corn makes a slow, sickly

growth; whereas, upon a drained soil it starts vigorously with the commencement or warm weather, and becomes well rooted and far advanced towards maturity before the drouth of summer sets in. What is true of corn is also true in a greater or less degree of other crops. It is an established philosophical fact that every gallon of water that is carried off by evaporation from the soil, requires as much heat as would raise five and a half gallons from the freezing to the boiling point, so that it may be clearly seen that the immense amount of water that must necessarily escape from such lands by evaporation, carries with it a great amount of heat, when it is most required by the growing crop.

In the European countries land draining has long been practiced to a very great extent.—The number of population to the square mile in those countries renders every possible improvement necessary in order to afford them sustinence. Within the last few years there has been a very marked improvement in the various departments of agriculture in the United Sates, and we know of none more important that now demands the attention of the American farmer than that of land draining. In a few States under-draining has been adopted to some extent, and the result has been an increase in the yield of the crops cultivated from one hundred to two hundred per cent. At the prices to which corn and wheat have advanced, and which are now likely to be sustained, this increase of product will pay all the cost of draining in from one to three years—frequently in one year; nor is the increased productiveness all the advantages that result from draining. The soil is less likely to wash and run into the valleys during heavy rains, and the health and longevity of the inhabitants in the drained districts are greatly promoted. It is the excess of stagnant water in the soil, which can only escape by the slow process of evaporation, that causes much of the bilious diseases that prevail in our country during wet seasons. Another advantage is, drained land is better prepared to withstand the effects of drouth than that which has been saturated with water and firmly packed during winter and spring.

We merely allude to these facts at this time with the view to call the attention of the intelligent farmer to them the present spring, intending at a future time to say something more in detail upon the importance and advantages of land draining.

Geological Report in Relation to the Soils of Kentucky.

Soil of the Prairies compared with the Blue Grass Limestone Soils of Kentucky.

In our last number we made some extracts from Dr. Owens' Report in relation to the soils of Kentucky, to which we added some practical observations of a general character, with the view to encourage the adoption of a system of cultivation that would improve rather than exhaust the soil, and promised in the present number to say something of the comparative fertility of the soil of the Western prairies with that of certain parts of Kentucky.

For the sake of comparison, Dr. Robert Peter, the assistant of Dr. Owen in the Chemical department of the Geological survey of Kentucky, made an analysis of an Illinois prairie soil, collected by him in October, 1855, opposite Keokuk, a few miles back from the Mississippi river, just from under the newly upturned original prairie sod. This soil, we presume, compares in its general character and constituents with that of a large portion of the west. The following is the result of the analysis, with the accompanying remarks of Dr. Peter, and the concluding admonition of Dr. Owen:

Organic and volatile matter	9,050
Alumina	2,400
Oxide of iron	2,350
Carbonate of lime	,890
Magnesia	,526
Phosphoric acid	,175
Sulphuric acid, not estimated	
Potash	,197
Soda	,100
Sand and insoluble silicates	84,470
	100,163

In communicating the result of this analysis, Dr. Peter remarks with great justice:

"Notwithstanding the luxuriance of the growth of the first crops on the prairie soil, occasioned partly by the large amount of available nourishing matter afforded by the decay of the thick sod, it is evident from the above analysis, that, taking into consideration *durability* as well as *immediate fertility*, as ascertained by the chemical analysis of the soil itself, apart from the sod there are many of our Kentucky soils which take the second rank, when compared with those of the *blue grass region*, which yet are fully equal to this prairie soil.

Compared with the first rate soils of Kentucky that of the prairies contains a much smaller proportion of alumina and oxide of iron, as well as lime, magnesia, phosphoric acid and alkalies. It contains a much larger proportion of fine sand and doubtless a larger proportion of the coarser sand than our best soils; and, therefore, while its large quantity of organic matters is held in the soil with a small force of attraction, because of the large

proportion which the sand and silica bears to the alumina and oxide of iron; and hence they are readily soluble and immediately available in the production of luxuriant crops; these very circumstances will cause its more speedy exhaustion; and when the accumulated store of organic matter has been consumed by thriftless husbandry, this soil cannot rank beyond a second rate position.

By a comparison of the constituents of this Illinois prairie soil with the average soils of Kentucky, for example with (a) of the following table, which is an upland soil of Franklin county, waters of Benson, near Hardinsville, and (b) a sub-carboniferous soil of the Barren limestone formation, Barren county, we perceive that these Kentucky soils are as a whole in no ways inferior:

	a	b
Organic and volatile matter	9,133	5,200
Alumina only in (b), alumina including oxide of iron and magnese (a)	3,100	8,460
Oxide of iron		2,206
Carbonate of lime	,316	,366
Carbonate of magnesia in (a), magnesia alone in (b)	,517	,205
Brown oxide of manganese		,234
Phosphoric acid	,243	,159
Sulphuric acid	,068	
Potash	.173	,197
Soda	,049	,090
Sand and insoluble silicates	80.754	87,686
Loss in (a), loss and sulp acid in (b(	,647	,197
	100,000	100,000

The Franklin county soil is even rather richer in organic and volatile matter; both are richer in argillaceous matter, the Franklin county soil is considerably richer in phosphoric acid and the Barren county soil is almost equal to it and contains the same amount of alkalies.

If we compare the Illinois soil with the best Kentucky soils we find that there would require to be added to the Illinois soil, for each acre, to make it equal in the amount of fertilizer for only six inches in depth:

107,236 pounds of ferruginous clay.
20,569 " of limestone.
1,881 " of phosphoric acid, or
3,802 " of unleached ashes.
392 " of soda, or
836 " of common salt.

It is true that the Illinois soil contains 1.28 per cent, organic matter, which would contribute to produce heavy crops for the first few years, but the above inorganic constituents are the true elements of permanent productiveness, and the Illinois soil, with 84.47 per cent. of sand and insoluble silicates, must of necessity be far sooner exhausted than the more retentive argilo-calcareous soil of the blue grass regions of central Kentucky.

The rich black, fat silicious prairie soils of the West are indeed wonderfully productive at first for the reason above stated, but they never can have that permanent productiveness of the best argillo-calcareous soils of Kentucky, cultivated with any degree of judgment.

Let not, then, the Kentucky farmer, without due consideration, leave the home of his nativity in the hopes of finding in the far West land more productive than his own; let him rather seek to gain an insight into the qualities of his soil and adopt a frugal method of husbanding the strength of his new land and renovating the consumed ingredients of his old.

D. D. OWEN, State Geologist.

The comparison of these analyses should forever remove the erroneous opinion entertained by a large proportion of the cultivators of the Western prairies that the sources of the fertility of these lands are *inexhaustible*. From the general appearance of these different soils, even in the absence of chemical analysis, it would seem to us that a close observer would come to the same general conclusions that the resources of Dr. Peter have disclosed.

The facts by these investigations should at once lead every farmer to adopt that system of *manuring*, cultivation and rotation of crops that would tend to improve rather than exhaust his soil. They also present at a glance the materials of their relative proportions necessary to be applied in the same form for the restoration of those prairie lands, that under improper treatment have already became exhausted of much of their virgin fertility.

This survey and report, although made with special reference to Kentucky may be made of immense practical value to Western farmers in general, and with this view in our former number we endeavored to present the facts it suggests in the clearest possible light and hope our efforts have not been altogether in vain.

New and Improved Subsoil Plow.

P. Manny, of Wadam's Grove, Ill., has invented a subsoil plow for which is claimed a new and important principle. It is said that it can be run at a much greater depth, pulverizing the soil more thoroughly and at the same time requiring less power than any plow now in use. We know nothing experimentally of it but from its appearance, it would seem to possess all the advantages claimed for it. A patent has already been secured for it.

Mr. Manny is the father of the inventor of the celebrated combined Mower and Reaper so favorably known throughout this country, and has invented several other important agricultural machines, and among them is a new self-raking Reaper, possessing the merit of great simplicity and has the appearance of being an improvement on many now in use. We hope to see these machines in operation during the present year, when we shall speak more fully of them, should their claims warrant it.

Advice to Young Farmers---No. 3.

DIVISION OF THE FARM.

When the farm is located, before a blow is struck or any labor performed, it should be laid off into fields, of convenient size and form, and if possible these fields should be separated by good fences. The first work on the farm should be done by system, that it be not lost, nor badly done. In dividing the farm, care should be taken to observe all the natural divisions, such as high and low ground, wet and dry, clay and loam soils, &c., where such exist. If the soil is all alike, then the division should be for convenience and good culture. A low, wet piece of ground, adjoining one high and dry, ought to be separated from it, so the two can be cultivated according to the requirements of each, so that stock can be kept on one when it is improper that it should go upon the other.

One of the objects of a proper division of the farm is, *convenience*. Any field can be used for pasture or meadow which may chosen. Or stock can be kept for any length of time in any field and then taken out. Any field can be fed early or late. The fall feed can be given to the stock or let rot upon the ground. Stock can be separated, the old from the young, horses from cattle, sheep from all. A change of pasture is often desirable. A particular field should not be pastured too long. There should be rotation in pasture as well as rotation in crops. In broken countries, where much of the land can be used only for pasturing, such a rotation cannot well be practiced; but in much of the West every part of the farm is tillable, and a change of pasture becomes one part of good farming. The fields should and be arranged so as to be convenient to get to from the house and barn, as well as from some road. So far as possible, it is desirable to have water in every field, and gates or bars to make them easy of ingress and egress.

The second object of a division in the farm is, to *facilitate good farming*. To farm with no respect to the principle of rotation of crops, is to farm at random. To plant one piece of ground every year to corn; to sow another as regularly to wheat; a third to oats; to use a fourth as meadow; a fifth for pasture, and so on to the end of the chapter of crops, is one of the best ways to spoil a farm and have poor crops. So it is one of the most successful ways to degrade agriculture and get small profits. It is best to change crops every year. No matter if the soil will produce the same crop for several years. You are weakening its productive qualities. You are exhausting some of its elements. You are killing when you ought to be vitalizing it. If the young farmer begins right he will not only save, but improve his farm; not only cultivate it well, but cultivate himself. Good farming reflects back upon the farmer. It does him good. It affords a sort of school in which his powers of mind may be trained. It is one of the best schools of life, and always has and always will turn out a class of noble men.

A third object of the division of a farm is, *its value*. It increases the value of the farm. It adds to its beauty and utility, makes it easier to cultivate, and in many ways enhances its value. The number of fields should be as much as six or eight, besides the garden and orchard, which should be fenced by themselves. If all cannot be fenced at once, let the division be properly made and fence as fast as may be, one or two fields a year till the work is completed. It is best to begin well. As Crocket says, "be sure you'r right, then go ahead."

Corn Husking Machines.

A number of corn husking machines have been invented, but none have yet come into general use. The labor of husking corn is comparatively slow and tedious, and a machine that would do the work perfectly and with efficiency, would prove an important desideratum. Mr. S. H. Mix, of Scoharie county, N. Y., has lately invented a machine that is said to perform the work successfully. One ear is fed into the machine at a time, as in the ordinary corn sheller, with the butt end foremost, and is held an instant between springs, while the butt of the cob or stalk is removed, when it is passed through and is acted upon by rough surface which entirely separates the husk from the ear.

Another machine has recently been invented which it is also claimed will prove successful; with this, the butt of the ear is first sawed off close, at the union with the husk, which leaves t loose and easily stripped off with a sort of picker or spiked roller. In this machine also, the ears require to be fed one at a time; but then, if the work is perfectly done, a great saving is secured. We shall keep an eye to this and all other improved machines adapted to the farm, and report progress, and describe their operations as fast as they reach us.

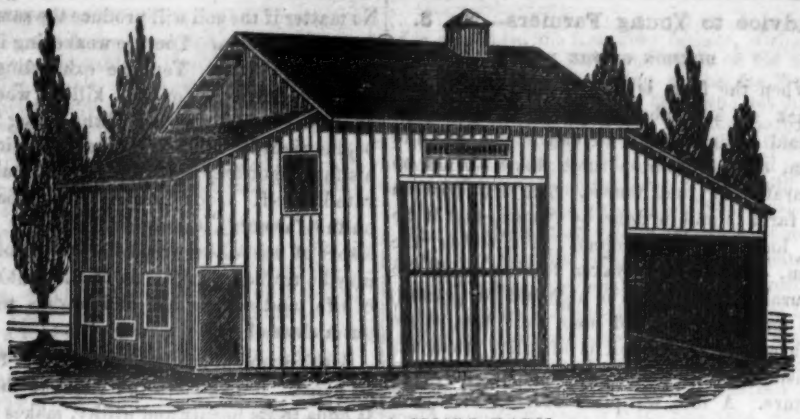


Fig. 1—PLAN FOR A SMALL BARN.

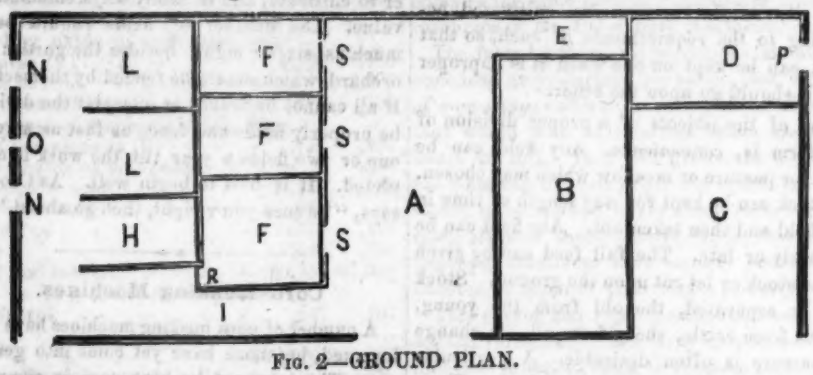


FIG. 2—GROUND PLAN.

In our March number we gave the plan and description of a side hill barn. We now give the design for one on level land. Farmers in the West have not learned to appreciate the importance of barns, and the annual loss to them in consequence is immense. But the deficiency of this important farm appendage is the natural result of the circumstances which attend the settler in a new country. The little capital that he sets out with is generally all required to secure his land and erect the humble tenement for himself and family. He may provide a rough shed of poles for his work horses but his cattle must seek shelter in winter under the trees or behind the fences, and his grain is threshed out in the field, as soon after harvest as circumstances will admit. His hay is stacked up near his stable, and thus from what he is at first compelled to submit to from necessity, the habit of neglect is formed and in after years, when circumstances will admit of providing such conveniences, he has arrived at the conclusion that they are not necessary.

In travelling through portions of Pennsylvania we have often been struck with the evidences of the foresight and economy of the early Dutch settlers in providing barns of capacity sufficient for the protection of the most of their hay and grain, their horses and farm stock, while their dwellings for themselves and families are small and of the most humble style.

The loss sustained by the Western farmers for the want of suitable barns amounts to many millions of dollars annually. Besides the injury to his hay and grain crops, he labors under great inconvenience, and is subject to heavy losses in feeding his stock during winter, and besides this, his animals require much more food to maintain them in order through the winter than when they are comfortably sheltered. If they do not receive an extra amount of food to keep up the animal heat during the long, cold winter, they consume the fat that they have accumulated through the summer to supply the deficiency of food. Heat is maintained from one of these two sources, by a sort of combustion, analagous to the fuel in a stove or the oil in a lamp. If the fat is exhausted to make up for the deficiency of food, the animals are turned out in the spring, poor and emaciated, and if

they survive the trying month of March, they will consume one-half the summer in restoring the flesh they have lost. This is no fancy picture, but one that may be almost everywhere witnessed around us.

Besides these losses and the numerous inconveniences the farmer is subject to in preparing the food and taking care of his stock, for the want of a well constructed barn, arranged with all the improvements of the present day, he loses an immense amount for the want of shelter for his crops. In 1855 there were millions of bushels of wheat in the United States either totally lost or greatly injured by exposure in the shock, to the rains. This injury was so extensive that in many sections of the country sufficient wheat that had not been sprouted could not be procured for fall sowing, and the query was made in almost every agricultural paper, whether sprouted wheat would answer for seed.

The above plan is described as follows:

Fig. 2 represents the ground plan of a barn—the main building 20 by 30 feet. The two wings are for a stable, wagon house and corn crib.

A, barn floor; B, place for storing hay or grain instead of stacking it, and where the grain will be convenient to the floor for threshing.—There is also another place over the granaries, F, for the same purpose; C, wagon house; D, corn crib; E, passage; I, passage from the barn floor to the stable; H, stall for single horses; L, double stalls; N, windows; O, manure window; P, door for filling into the corn crib; R, sliding board to take oats out of the granary; S, granary doors.

Fig. 1, shows the elevation and needs no explanation. The main door is made and hung in four parts, so that a man may see to work by opening one or both of the upper ones, and not have to leave his work to keep the pigs and cattle out.

HARVESTING MACHINES.

It is presumed that almost every farmer who has twenty acres of meadow, or as much small grain to cut, has learned that there is economy in the use of mowing and reaping machines. We are receiving letters almost daily from persons in different parts of the country, inquiring which is the best machine now offered to the farmer, and where they can be procured.

Since the first machines were brought into successful operation, a great number of manufacturers have introduced new machines, differing in some minor points, under different patents; and it is not an easy matter for one to become familiar with the merits of all, although this class of machines receive a considerable share of our observation at the annual trials and at agricultural fairs which we attend in different parts of the country. It is the safest rule for farmers, who wish to buy machines for the coming harvest, to procure such as have *proved to be good*. There are some newly introduced machines now offered to the public, with numerous highly flattering certificates of their performance last year, which we know were failures. When a new machine is known to have performed well for two or three years, farmers will most likely learn the fact. Atkin's Self-raker, although a complicated machine, has proved a good one, and has generally given satisfaction. Manny's Combined Mower and Reaper, we believe, is not surpassed by any. There are other good machines in different parts of the country; but we are now speaking more particularly in regard to our own locality (Louisville) than of any other.

Atkin's Self-Raker is manufactured at Dayton, Ohio, by Dutton. Manny's machine is manufactured in this city by H. B. Howard, and in St. Louis, by Kingslands & Ferguson.

KILL THE WEEDS.

April was a busy month with the farmer, in preparing his ground and planting the seed of his various crops, and May will still tax his energies and his patience, if he does justice to his crops and keeps ahead of the weeds.—Weeds always have the start of the farmer.—They are planted and ready with the first genial rays of spring, to come forth, and will contend for the mastery throughout the season. Our warm springs and hot summers are peculiarly favorable to the growth of weeds on our rich Western lands. To subdue weeds they must be taken when young. One man will easily destroy the weeds upon an acre of ground in a day while they are small, which would require the work of four men when they are large. Besides, weeds overshadow and choke the crop and drink up the very elements of its subsistence and growth. With the improved implements of the present day, the farmer can much more easily subdue the weeds than he could in earlier times when his tools were limited to the plow and the hoe.

The method now practiced by most good farmers in the first dressing of corn and potatoes, is worthy to be recommended and widely

adopted. This consists in harrowing the ground after planting, with the two horse harrow. If the ground were well rolled or harrowed (as it ways should be after it was plowed) the young plants sustain no injury from being crushed or covered with clods by the operation, while the weeds are entirely eradicated, and the land is left light and porous and in the best possible condition to communicate the heat, air and dews to the roots of the growing plants.

For potatoes, the harrow may be used with all the teeth. The harrowing should be done just at the period when the plants are within an inch of the surface, or before many are to be seen above ground. Corn should be harrowed when it is about three or four inches high. If the *triangular* harrow is used, the two forward or middle teeth should be removed; if a square harrow is used, the teeth should be removed so as to leave a clear space twelve inches wide through the centre on the line of draft. In harrowing, let the horses walk each side of the row.

A thorough dressng in this way will give the crop such a start of the weeds that the subsequent work is comparatevely trifling.

These may appear like simple directions to those who have long practiced them, but there are still many farmers who have not learned the value of this method of cultivation.

(Written for the Valley Farmer.)

MILK HOUSES.

Messrs. Editors:—A good milk house is a matter of the first importance to many farmers, one in fact, which but few can afford to do without. I have built several, which are said by those for whom they were made to be just the thing. I here give directions for building such a one, which you are at liberty to use as you may think best.

DIRECTIONS.

Make a circular excavation thirteen feet in diameter and seven feet deep. Care should be taken that the sides be not only a true circle but smoothly dug. Starting at a point eighteen inches outside the circle excavate your entrance way at an angle of forty-five degrees and four feet six inches wide. A four inch wall is sufficient for the circular wall, but not less than nine inches for side walls of entrance way.—Carry up the circular wall five and a half feet high, from which point start the arch, which should be nine inches thick, and crowned some two and a half or three feet. In the centre should be inserted a ventilator—Miller or Emerson's are good. The door frame should be just wide enough to allow of a nine inch wall between it and the earth on either side. The side walls of the entrance way into the straight wall over the door should be carried up in the form of an ordinary cellar way, at least high enough to support the two feet of earth over the arch. Steps may be made of joist two and a half or three inches thick by eight inches tread, cut long enough to give them a bearing of some four inches on each end. Two courses of bricks between the steps will give a comfortable rise, say eight inches, which with eight in tread will just make the angle of forty-five degrees.

The bottom should be neatly paved with bricks and if in a wet location, or where trouble from water may be anticipated, the bottom should have an inclination of some two inches toward the centre, where a hole two feet deep by two feet in diameter, walled up with bricks and paved in the bottom should be made, as a receptacle from which the water could be taken as may be necessary. The side walls and arch should be neatly plastered with hydraulic cement. There should be a number of small augur holes made in the top of the door to assist ventilation. Shelves and other internal arrangements to suit the fancy or convenience of those using them should be made. After the earth becomes sufficiently settled, the mound formed by the crowning of the arch should be sodded, and if a circular or octagon lattice is placed over and around it and covered with grape or other vines neither its beauty or utility would be destroyed. J. S. Williams.

St. Louis, Mo.

We have seen several milk houses which have been made by our correspondent, and give them our hearty recommendation. Those who have had them built and tried them, could not be induced ever again to be without one. In the hottest days of summer the milk is kept cool and the butter hard without ice. The reason of this is as follows. The milk house, being under ground is not effected by the hot air above ground. The warm air in the milk house if any therein, passes off at the top through the ventillator, the cool air remaining as it will not ascend. In the hottest days of summer a person cannot enter one without experiencing a chilling sensation. Should any of our readers wish to have one made they cannot employ a better man than our correspondent.

[Written for the Valley Farmer.]

CULTURE OF INDIAN CORN.

Eds. of the Valley Farmer:—I would like very much to give your readers some instruction in the cultivation of Indian corn and my long experience and success. But it is almost a fruitless effort for every farmer thinks he understands it better than any other man. Did you ever converse with a farmer that did not believe he had a perfect knowledge how the best crop of corn can be raised, because his Father cultivated in the same way, "and had corn to sell as they say in Virginia." When I first commenced my method all my neighbors predicted a failure—that my corn would fire from close planting. The result was very different, for I took the premium at the Bourbon county fair that year and the following year, and the certificate the next year, which was the last crop I ever raised. The first premium crop was 118 bushels; second, 123; third, 112, on land that had been cultivated fifty years, and when I commenced improving it, 35 bushels was about the maximum of my crop. I used no manure at all nor any extra cultivation. The corn was plowed four times and hoed slightly once, and an acre selected from the middle of a 30 acre field and measured by disinterested men and certified to the agricultural society of Bourbon county Ky. Any of the good lands in Missouri can be made to produce the same amount of corn as the Bourbon county lands. I am convinced that Florissant Valley in St. Louis county can be made to average 120 bushels per acre. The first preparation for putting old tired lands in good tilth for large crops is this: Sow the land in clover, one bushel of seed to seven acres. Pasture the first crop of clover and keep off until the second crop is ripe and the seed matured. Plow the third year and plant in corn. Break up the clover sod in January and February that the frost may kill the worm and larvæ. The next fall sow the ground in wheat after the corn is cut and the next spring there will be a better crop of clover than the first; graze off the first crop and turn off for a second, which must be allowed to seed, and then grow in like manner one crop of corn in three years; by this means the clover is never killed, and the corn is cultivated with half the labor and without weeds.

Now here is the great secret in raising corn. Break up the ground very deep and plant as soon as possible after the ground is broken, in order that the corn and weeds may have an even start. Lay off the row for planting each way with a good two horse plow. The corn should be dropped by hand and a careful steady man to do it. Drop from 8 to 12 grains in each hill, which will allow three to grow, three for the ants and the balance for the worms and birds. Some will be destroyed in plowing. Never replant. Either let it stand or plant afresh. It is much easier to pull out than replant, and replanting never does any good. It is either covered up in throwing the earth to the hill or shaded and killed by frost before maturity. When the corn is from 3 to 4 inches high, plow it with a bull tongue as close as it can be run without covering up the corn. After the crop has been gone over plow it the other way with a bull tongue plow. The bull tongue should be 15 inches long, 8 inches at the top and 3 inches wide within 3 inches of the point, which is better than a subsoil plow for loosening the ground and prevent washing. The corn will require two more plowings with a wide and long shovel. If the shovel plow is made right two furrows in a row is sufficient. It is very important that corn should be plowed at the right time. If suffered to get grassy and mat about the roots it will grow spindling and yellow and no culture can ever restore it after. The crop will be lessened one-third. Great care should be used in plowing at the proper time, when the corn is small and the ground not too wet. When the corn is over four feet high all the work should be done so as to give the roots a chance to extend and prevent firing. I would recommend one hoeing when the corn is 18 in. high. It will increase the crop ten bushels and a man may earn from two to three dollars per day by the increase of crop, if he is a tolerable good hand with a hoe. Corn should be planted in good soil (for no other should be put in corn) 3 feet each way will give 4900 hills per acre or about 18 shocks of 11 hills. The difference in product between 3 feet square and the usual way of planting, say from 4 to 5 feet is astonishing to one who has not figured it out, and I contend that corn will stand drouth longer when planted 3 feet apart than 4 1-2, as the ground is more shaded, and evaporation does not go on so rapidly. Those large crops we read of in Kentucky are cultivated in this way, and the writer of this article has the honor of introducing this method of culture into the Blue Grass region of Kentucky. S.

St. Louis, Mo., March 30th 1857.

(Written for the Valley Farmer.)

SELF CLEANING PONDS.

Messrs. Editors:—Select a location in the bed of any stream of water from three to twenty feet wide, and subject to high rises from heavy rains. Dig out a square hole, running with the stream, from twenty to forty feet in length, and from eight to twenty in width—proportionate to the volume and rapidity of the water—four feet deep at the upper end and gradually sloping to the surface at the lower. Secure the sides of the pond well with a stone wall, or, if there is no stone convenient, with logs. Build next two stone walls as wings or arms to catch the water and throw it into the pond below. The lower ends of the walls will be placed respectively at the upper corners of the pond, and widen out at an angle each of forty five degrees. These wings must be long enough and strong enough to catch and turn into the pond beneath, the whole volume of the stream at its flushest periods. It will be necessary to get a fall for the water. To do this, place a substantial log across, and two feet above the surface at the upper end of the pond, with its ends fairly fixed in the lower ends of of the wall, which should be three or four feet

thick next to the water. Place flat rails with their lower ends resting in the bed of the stream above, and the others projecting about a foot over the top of the log. Secure these by throwing stone on the lower ends, and pinning the upper to the log. This will force the water all into the pond beneath, and in its fall it will wash out all trash, stone, soil or anything else that may lodge on its bottom. The pond will fill from every rain that starts the stream running, with fresh water, and carry off the stagnant, thus supplying stock with pure water always. The principle is the same as in building old fashioned buttment water-gaps, excepting the pond below. I have seen rocks a quarter of a ton in weight thrown out by one of these ponds, not more than ten or twelve feet wide. S.

[Written for the Valley Farmer.]

Success of the Wheat Drill.

Messrs Terrel & Buchanan—Gents:—Last fall I became the purchaser of one of your "Wheat Drills." Richard Boyce and myself, if you recollect, ordered a drill, through Mr. N. J. Colman, Editor of the Valley Farmer. Mr. Boyce planted some thirty acres, and myself something above seventy acres. I was much pleased with the work at the time, and have good cause since to be well satisfied with the method of drilling in preference to any other mode.

Last fall was a season long to be remembered for the severity and length of the drought.—Most fields sown from the 15th of Sept., to the 8th of Oct., failed to vegetate until about the 15th of October, when our heavy rains set in.—My fields, planted just in the dryest time of this period, (beginning to plant the 17th of September and finishing on the 2nd of October,) came up well in five to seven days and grew off well, making fine root and tillering unusually well, notwithstanding the drought continued until the 18th of October. Of the unusually large crop seeded last fall, it is admitted that the corn ground, late stubble, and much of the middle sowing—without any reference to the quality of the land sown—is entirely lost. The great damage was done early in November, and was caused by the successive freezes and thaws, while the young plants were yet without lateral roots. Such general and complete destruction of the wheat crop in our section has never been known. Our country is more than an average one for wheat, and our farmers, for the four years past, have realized large and profitable returns from wheat culture. This crop is rapidly gaining favor with farmers as a money staple. In consequence of the success attending wheat growing, the heaviest crop perhaps ever sown in the county, was sown last fall. I have already said that the crop of 1857 would be a failure, not partial, but almost entire. I shall now give you a more cheering account of drill planting. Seven drills were introduced here last fall, five into Ralls county and two into Marion county. I am acquainted with all the gentlemen that used them and know their lands. Without making any attempt to classify these lands as to quality, I simply state the fact, that these lands are not above the average quality of the lands adjoining. Now for the comparison. While in almost every instance the fields of broadcast, no matter whether harrowed or ploughed in, are totally destroyed, uprooted and blown away, the drilled fields with the exception of one farm only, out of the seven, are yet firmly rooted, and present an astonishing contrast to the naked furrows of the others. Nor does the comparison stop here. In a few early fallows, there is some hope of a light crop, but in general the surface is socompletely dissolved and compacted by the very many very heavy fall and winter rains which we have had, that on the return of hot weather, the grounds will be baked into one vast tile. To use the words of a neighbor, the "ground looks as if the plasterer had just put on the third coat." This, every one knows, is of itself, sufficient to retard the early growth and spreading of the plants to such a degree that only the most favorable season can save the wheat from its greatest enemy, "the rust." Not so with the drilled fields. The regular succession of furrow and ridge made by the drill prevents to a very considerable extent, this packing of the surface, so that the ground itself, will be in a much more favorable condition on the return of spring, to hasten the spring growth, on account of the lighter texture of the soil. I shall observe and compare my drilled fields with those in the neighborhood sown broadcast, at every stage, until full maturity, and will then give you a fair comparative statement of all particulars. I am fully satisfied, that the advantage of drilling over broadcast, on the score of wintering alone, increases the chances of average crops, too much to be longer neglected by farmers.

I have to say in conclusion that there is a very prevalent error among farmers as to the necessary preparation for drilling, most of them believing that only very clean fallows can be drilled. This is a mistake as I know by actual experiment. It is true of some machines, but not of yours. I give my own experience as I drove my own drill. I planted 37 acres, clover fallow, 15 acres of heavy wheat stubble, plowed down, 8 acres oat stubble, 5 acres of oat land, pastured down with stock, 5 acres of corn land, broken with two horses and very grassy at that. This last was entirely to try the working capacity of the drill. In every case the experiment was successful. Nor are stumps of small size, or rocks, any hindrance to the working capacity of the machine; the only difference being in the amount of work done in a given time. I speak from my own knowledge and I believe I gave the drill a thorough trial. If my remarks can be of any service to you, you have my permission to make them public, through the *Valley Farmer*, if you wish.

Yours, Respectfully,

N. S. Dimmitt.

Ralls Co., Jan, 6th, 1857.

The Vegetable Garden.

How Deep Should Seeds be Planted?

In planting the various kinds of garden seeds, many persons manifest a great want of judgment in regard to the proper depth that seeds should be covered. The errror is more frequently in planting them too deep than otherwise. The depth that seeds should be planted varies with the kinds, and in some degree with circumstances. Large seeds of strong growing plants, such as peas, beans, corn, &c., should be planted deeper than the small seeds of delicate growing kinds, like carrot, lettuce, parsley, celery, &c.

To insure speedy vegetation, seeds require a due degree of *moisture, heat* and *air*. If the seeds are not covered sufficiently deep, particularly after the warm weather of spring sets in, they often lack moisture and fail to vegetate. If planted too deep, they do not receive the requisite amount of heat and air, and they either rot, or the young plants exhaust their strength and vigor in forcing their way into the open air. Such plants as the raddish, cabbage, turnip, and the like readily absorb moisture, and if the weather is warm, come up in a few days after planting. Such varieties as the parsnip, carrot, celery, parsely, &c., with the most favorable requisites of vegetation, are generally a long time in coming up, and must be planted early, before dry weather sets in, or they are liable to fail altogether.

As a general rule, the seeds of delicate plants should be covered about *half an inch* deep—more or less—according to the lightness of the soil and the season of planting, as it regards the prospect of moisture. The seeds of beets, several of which are inclosed in a single head, capsule or seed-vessel, require considerable moisture to cause them to burst forth, and if not planted early they should be soaked for thirty-six hours. The water should then be turned off and the seeds kept moist for several days before planting. Such varieties as peas, beans, okra and similar kinds, require a covering of earth from *one and a half* to *two and a half inches*.

We are led to offer these remarks from the inquiry made of us by a friend—"How deep should peas be planted?"—stating that last season he planted them twelve inches deep, according to the instructions contained in the "Ohio Farmer," but the planting of the seed was the last he ever saw of them—none ever saw the light of day afterwards. We should regard it a miracle if they had. This is an extreme repudiation of Prof. Comstock's theory of "Terra Culture."

We see an article going the rounds of the papers, sometimes credited to the "Horticulturist," and sometimes without credit that, "With regard to the depth that seeds should be covered, it is a safe rule to cover them with a depth of soil about *equal to their own thickness*. This cannot always strictly be done, but it should be aimed at as near by as possible."

Here then, we have instructions from public teachers—the one recommending that peas be planted to the depth of *one quarter* of an inch; the other advising *forty-eight times* as deep.

Seeds cast by the hand of nature are usually very abundant. These generally drop in the fall, and by spring some of them may receive a covering "equal to their own thickness," and if they fall in favorable locations, *one in ten thousand* of them may vegetate and mature, answering all the ends that nature designed. But man is endowed with reason, and is required to aid nature in the only avocation assigned him by his Creator, in tilling the ground.

It is not a matter of great surprise that so many agricultural papers fail to receive adequate support, or that "Book Farming" is not more highly esteemed by the mass of cultivators, when such instructions are promulgated, so much at variance with reason and the most common observation.

Cauliflower and its Culture.

Cauliflower plants should now be transplanted at such distances as are suitable for common cabbages. It is a rough feeder—consequently the soil can hardly be too rich for its growth. Decayed vegetable matter is favorite food for it, though compost of muck, ashes, and lime or plaster, proves an excellent substitute. Soap suds is an agreeable condiment. Frequent hoeings, especially in dry seasons, hasten its growth. It is the natural tendency of the plant to protect and shelter the head while forming, with the large leaves with which it is provided. The effect of this is to blanch them almost to transparency, and of course remove all disposition to toughness, which an exposure of the atmosphere would be likely to mote. Whenever the leaves show an inclination away from the head, they may be easily brought to cover it by placing them upward in the morning, and thus habituating them to grow up and cover the head instead of downward.

Stock Raising Department.

STOCK RAISING.

Good farming depends in a great degree upon good stock, and this for many reasons. The experience of the best agriculturists of Europe and the older parts of this country proves that the vegetable products of the farm are dependent chiefly upon the animal products. The animal products are the chief support of the soil. Any soil will wear out by taking off every year, its whole vegetable crop, and not supplying it with manure of any kind. There is yet discovered no way of enriching a soil equal to animal manure: and no way of keeping up the native strength of the soil except by keeping the farm well stocked. In Virginia and many of the States, there is much worn out land, now almost valueless. The reason is, because the land was never stocked. Its vegetable crop was every year taken off and no animals kept to repay the exhausted soil. Where the animal crop is equal to the vegetable, under good cultivation the farm will never wear out. The animal crop is the natural balance to the vegetable. One exhausts, the other enriches. If everything of a vegetable nature that a farm produces is put into stock kept on the farm and the manure well husbanded and applied the soil will grow richer evey year. Experience as well as reason shows that vegetable products exhaust, while animal products enrich the soil. A good original soil will bear and may be kept good on an equal animal and vegetable product. The practice of having stock farms and vegetable farms separate is evidently an unwise one. It is admissable only in new countries, where the regions distant from market can only be used for raising stock. The true plan in a settled country is to have every farm both a stock and vegetable farm. Small farms near large towns may be used wholly for vegetable purpqses, provided manure from the towns be taken out to keep good this soil.

The value of stock upon a farm depends chiefly upon two things, viz: good care and good breeds. Good care consists of good feeding and watering, and good shelter from cold and rain. Good breeds are those which are healthiest, hardiest, breed best, and grow best on the least food.

We may illustrate the advantages of good stock by reference to the aggregate stock of France, England and the United States in comparison. The British Islands contain sixty-two millions of acres and support thirty-five millions of sheep, a little more than one for every two acres. France contains one hundred and six millions of acres and supports the same number about one for every three acres. Our country in 1850, had three hundred and ninety three millions of acres in use and twenty-six millions and two hundred thousand sheep, one for every fifteen acres. France has not improved her sheep for the last eighty years save in the quality of the wool, by introducing the Merino from Spain. Wool has been her primary object. England has made meat, rather than wool, the primary object. She has made her sheep average in net weight of meat, eighty pounds each, while the French sheep average only forty pounds each. England slaughters of her flock, ten millions annually, giving her people eight hundred millions of pounds of meat. France slaughters eight millions annually, and gives her people but three hundred and twenty millions pounds of meat. Estimating the meat to be of equal value, the return of a sheep farm in England is six times greater than one of the same area in France. The average weight of our sheep we have no means of ascertaining, but it must fall greatly below the English weight. But the comparison shows how much we are behind both England and France, in our sheep stock, and how much France is behind England, and the great advantage of good stock, being six times more valuable than inferior.

Of cows, France possesses four millions and England three millions. The French work many of their cows so as to spoil their milching qualities, and keep many of inferior kinds. England from her three million cows, gets double the milk that France does from her four millions. In England there is a vast manufacturing and commercial population, so that her milk is worth four cents per quart, while in France it is worth only two. The whole produce of the four million cows of France is $20,000,000, while that of the three million English cows is $60,000,000. Here again the profit of good stock over inferior is most apparent.

By a little further comparison of the agriculture of France and England we shall see the importance of the animal produce of a country, equalling at least its vegetable; and as a consequence, the importance of the animal produce of each farm equalling the vegetable.

The wheat crop of France does not average, compared with its whole number of acres, over two bushels per acre, while in England it aver-

ges four. The animal production of the English farm alone, is more than the animal and vegetable both of the French farm. Comparing the two agricultures as a whole the English animal product is greater than its vegetable; while the French vegetable product is twice greater than its animal.

As a consequence the English agriculture is rich and the French poor. And yet France has a soil every way equal to England, and a climate adapted to corn, tobacco, the grasses, and many crops that England cannot well raise. It is evident that the high state of English agriculture is due chiefly to the superiority of its stock. If we examine the agriculture of all countries, we shall find that they are profitable and successful just about in proportion to the amount and character of their stock. It comes to this we think, that the value of the annual stock produce of a country, must at least equal the value of its vegetable produce, or its agriculture is not in a healthy state.

According to the census of 1850 our whole vegetable product, in round numbers, was $800,000,000; while the animal product, was only $330,000,000; less than half of the vegetable. In New York one of the older agricultural States, the value of the vegetable product is about twice that of the animal. The conclusion is that American agriculture makes a tremendous drain upon the soil, which is not compensated by animal manure. It is therefore exhaustive and destructive. Our farmers should weigh this subject well, and if they would not leave to their children exhausted farms and an exhaustive system of agriculture, they must bring the animal and vegetable products of their farms into proper relations. Let stock raisng be at least equal in importance to vegetable.

Decrease in the Number of Horses in the West.

When Railroads were first instituted in this country, it was feared by many that the rearing of horses, at that time a great source of profit to the farmer, would be greatly injured by breaking up the market for stage horses. But while the demand for horses has fallen off in this respect, the Rail Roads have opened a new and important branch of trade to the farmer more profitable than that of rearing horses. We refer to beef-cattle. Before rail roads were established, cattle in the West brought but a small price to enable the drover to meet the expense of a long journey on foot to the eastern market and compete with eastern reared cattle. Now they can be carried so speedily and at so small a price that cattle are reared to a great extent, to the neglect of horses. The rearing of mules has also had much to do with the decrease in the number of horses in the country, until the price of good horses has advanced, within ten years one or two hundred per cent.

We have no data at hand to ascertain the comparative number of horses now in Kentucky or Missouri with any former period, but there is evidently a large falling off. But from the returns of the Assessors of Ohio to the State Auditor's office it is ascertained that within the last three years the falling off in the number of horses in that State is upwards of 11,000. In 1844, there were 632,598. In 1855, there were 624,796. In 1856 the number is reduced to 621,443. The number will still be diminished the present year not only by the regular trade, but the great demand and high price in the new West will draw off all that can be spared.

[Written for the Valley Farmer.]

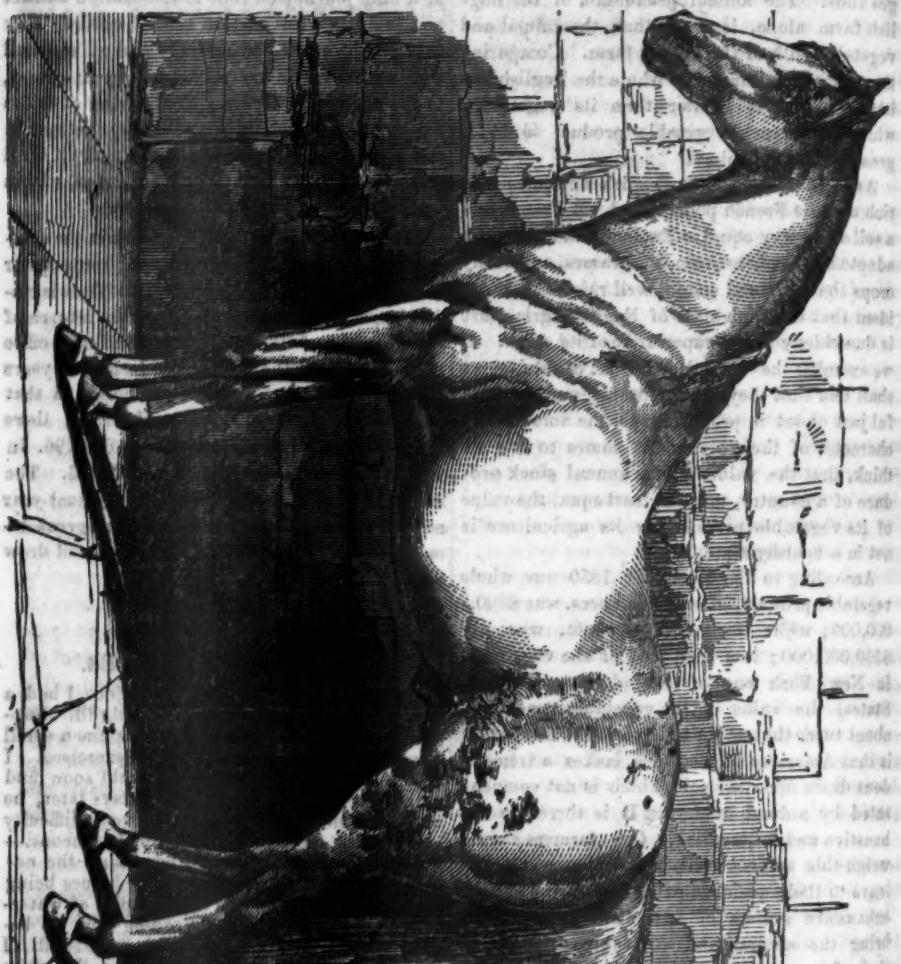
DRENCHING HORSES.

Messrs Editors:—A few days since I had a very fine stable horse taken suddenly ill. Supposing him to have the colic, I gave him a small dose of salts and had him freely exercised. I then left home, supposing he would soon find relief, but when I returned three days later, he was very sick, breathing with great difficulty and running from the nose a bloody mucous.—Being no Jockey I did not understand the nature of his disease, and several medicines being recommended I gave him about a pint of watermelon seed tea. While drenching him he became so sick that I thought he would fall. I let his head down, and almost, if not the entire dose came from his nose with a great quantity of the same bloody corruption. He remained very sick and within half an hour was dead. I opened him and found his lungs, with the exception of a small portion as hard as a piece of liver, with indications of the bloody matter, which I traced the entire length of his windpipe. It was therefore pronounced inflammation of the lungs. From his having been to all appearances in perfect health three days before his death and the general prolongation of the disease, I have drawn the conclusion that a portion if not all of his first drench was taken into his lungs, causing instant inflammation and death.

If some of your readers, more experienced in such matters would give their opinion through your valuable paper, I have no doubt but it would be both valuable and interesting to a great many, as I feel confident there are more horses killed than cured in drenching.

N. Green.

St. Louis Co., Mo., March, 1857.



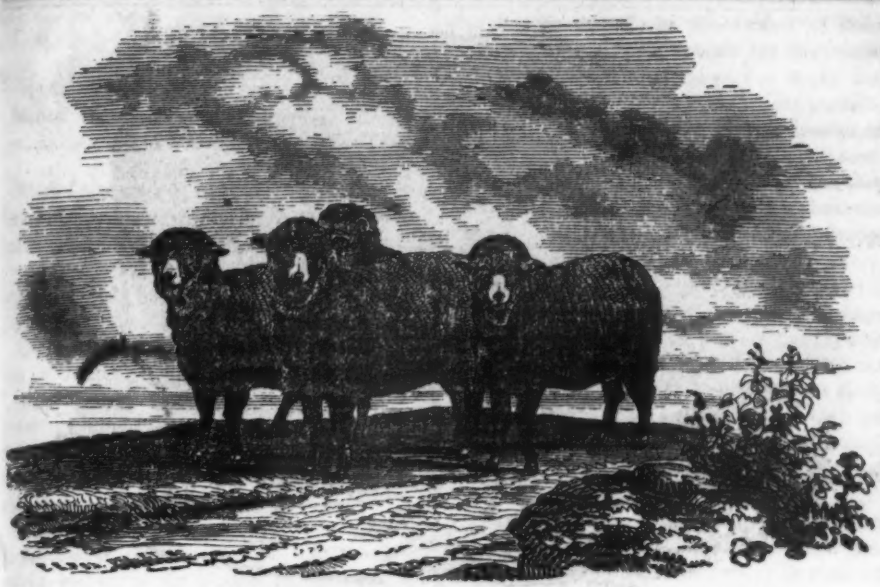
BUSH MESSENGER.

The above is a faithful representation of "Bush Messenger," now owned, we believe, in Ohio. The Messenger stock is considerably disseminated throughout the United States, and is considered a valuable breed. They are generally excellent roadsters, and many of them fast trotters.

The original horse, Messenger, from which the family of Messengers in this country are descended, was a gray, fifteen and three-quarter hands high, and stoutly built.

He was got by Mambrino, he by Engineer, and he by Sampson, dam by Turf, his grandam by Regulus. He was foaled in 1780, and bred by John Pratt, Esq., of Newmarket, England. He ran several successful races, and finally, in 1785, won the king's plate. He was imported into New York by Mr. Benger. The first two seasons after his arrival, he was kept at Shammany Bridge, near Bristol, Penn. Mr. Henry Astor then purchased him and kept him on Long Island for two years. About this time Mr. C. W. Van Ranst, Esq., purchased an interest in him, and for the remainder of his life he was kept in various parts of the State of New York, with the exception of one year at Cooper's Ferry, opposite Philadelphia.

He died January 28, 1808. His stock were celebrated as roadsters rather than racers, tho' he was sire of Miller's Damsel and some others of note.



A Group of Silesian Merino Sheep.

Geo. Campbell, of Westminster, Vermont, in writing to the editor of the Ohio Cultivator thus speaks of these sheep:

I send you a cut of a group of Silesian Merino Ewes, which represents them exactly in the same position that they were taken from a daguerreotype view, as they were standing in an open yard; consequently they do not show all of their good points—still enough are seen to enable one to judge of the character of the sheep.

The original stock of these sheep were from Spain in 1811, and since that time have been the property of a Silesian gentleman, who possessed all the necessary qualifications for a successful sheep breeder. They are about medium size, well formed, and have every appearance of being a hardy animal, often attaining a great age, one of which lived to be 21 years old.

The superiority of these sheep over other Merinos, is in the fleece, which, as to quality, will compare well with many Saxon flocks. It is very thick, remarkably so on the belly and legs and as to evenness of fleece they have no rivals.

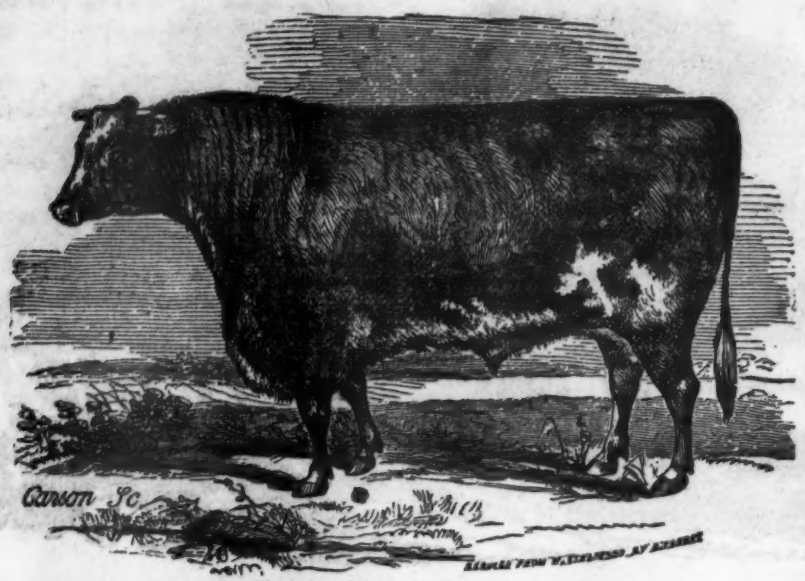
The length of staple is somewhat shorter than many other Merinos, and yet they yield a heavy fleece. Their wool is crimpy, and has a sufficient quantity of clear white oil to form a dark surface, which is beneficial to the wool, and partly protects them from storms. These sheep, I feel confident, will prove very acceptable to those farmers who wish to grow a fine grade of wool and heavy fleece.

It is supposed by a large portion of wool growers of the country, that in proportion as the wool grows finer, the fleece becomes lighter.—But I have long been of a different opinion, and my experience for the last few years has led me to believe that, as much at least of fine wool can be grown from the same amount of keeping as that of the coarser grades. I have no hesitancy in saying that one hundred or one thousand pounds of fine Merino wool can be produced at a less cost than an equal amount of any inferior quality.

These sheep cross well with the common Merinos of the country. In several instances where I let the use of bucks, in flocks that are smooth skinned, the lambs from the Silesian rams were wrinkled from their ears to the ends of their tails, and will no doubt add much to the quantity as well as to the quality of the wool.

Last year our Silesian ewes sheared an average of 7 lbs. 10 oz. in the dirt, of only 10 months growth. This year, in order to more thoroughly test their true value, I have been induced to wash them. They were first well soaked, then after standing in the sun an hour or more, were taken into the water, under a spout having a good fall, and washed until the dark ends disappeared, and the water ran from the wool looking perfectly clear. After sucking lambs from January to May, which would lessen the fleece from one to two pounds each, and cleansing in the above manner, they gave an average of 4 lbs. 5 1-2 oz. per head.

Our bucks of this variety, sheared last year from 7 1-2 to 10 1-2 lbs per head. If fine wool can be produced at the same cost as that of a coarse quality, I am sure that every one would prefer to grow it.



SHORT HORN BULL, "DUKE OF GLOSTER."

The "Duke of Gloster," of which the above is a fine portrait, (copied from an engraving in the English herd book,) was purchased at the sale of the late Earl of Ducie, by Messrs. Morris and Becar of New York, for 650 guineas, ($3,250.) This animal is of the celebrated Duchess stock, and one of the finest bulls ever imported to this country, as indeed he ought to be for the money expended for him.

The same enterprising gentlemen imported the cow Duchess, 66th, purchased at the same sale for the enormous sum of 700 guineas, ($3,500,) the highest price, it is said, ever paid for a cow in England—or probably in any other country.

RAISING HORSES.

Our correspondent H., of last month gave our readers an excellent article on the horse. He lays down one principle of which we would give a single illustration which years ago came under our observation. He states the principle thus, "In order to a perfect developement in the foal the mare should be relatively larger than the horse." The reason he gives for this doctrine is thus stated, "The mare being large and roomy there is ample space for developing in the fœtus the full powers of the horse in an eminent degree, giving it remarkable strength, activity and constitution."

As to the truth of the above statements we have nothing to say here further than to state a case.

My father once had a large fine mare of good make, speed, disposition, spirit and powers of endurance, used for many years as the family horse. She was a noble animal, seldom surpassed in all her excellencies, though of the common blood. Anxious to preserve her qualities, after she was somewhat in years, he raised two colts from her. The first was from a large, heavily and loosely made horse, relatively larger and coarser than the mare. The colt was a mare, coarse, lazy, flabby, without apparently one quality of its dam. It was sold at four or five years old for forty dollars.

The second was from a very active and muscular horse, a great trotter, very spirited and ambitious, relatively smaller and finer made than the mare. The colt was a mare, small and very cleanly made. It was but one year younger than the first colt. The two were raised together and had no particular care. At five years old the younger and by much the smaller one, was sold for seven hundred dollars. No country often produces a finer or fleeter animal. The case of these two colts sustains the statement of our correspondent, but whether it is from the principle he lays down we pretend not to say.

It is well, we judge, to give it an extensive trial. There are laws for breeding horses, as fixed as those which hold the planets in their course. If we can discover and obey them we can raise just such horses as we choose.

The Poultry Yard.

Hints to Housewives---the Poultry Yard.

BY HETTIE HAYFIELD.

Every farmer's wife who labors for the comfort of her household and the respectability of herself as a housekeeper will find it indispensable to keep a constant eye on two of the prime sources of her table luxuries, viz: the poultry yard and the dairy.

The first is our theme this month and it needs but a glance from the ploughman's savory *"scramble"* of eggs, with the light corncakes beside it, up to the towering temples of the bridal tables, all cemented with eggs, to convince the good housewife that her fowls are as necessary as her cows.

Have poultry, therefore, if they must shiver in the sleet in the icy tree tops; rob the grain stacks, and lay in the kitchen corner,—if however, your honored lord's means permit it, have them provided for comfortably, if rudely, which may be done with very little expense, if you save up the lumber, and keep your eye upon the odd days which the laborers find unfit for field work. But if you own a homestead, and the preacher's salary, the county tax and the children's schooling are made sure, indulge your taste a little and fit up your poultry yard, in a secure, durable and tasteful manner—whitewash, shrubbery and friendly vines, lend great assistance in such undertakings.

POULTRY YARD.

Select a dry piece of ground as far from the garden as can be allowed with due reference to your personal convenience; size to be determined by your wants, enclose it with a picket fence, the gates of the same, so that no fowl can get out, except through the little slips which you leave for the purpose, and can close at your pleasure.

Inside of this fence and about four feet distant from it, and four inches high, lay a curb, which, when filled up with earth and top dressed with gravel, will make a comfortable range on which to set the coops with the young broods, securing them from which would otherwise settle under them—a row of plum trees, will thrive, well planted, just outside of this curb, and repay the services which the fowls render in destroying the insects that annoy them by their shade.

Two walks of four feet besetting each other, will be enough for convenience and should be gravelled or tanned; in the corners of these squares will be sufficient places for feed coops and troughs sufficiently large for ducks and geese to wash in when confined in the yards.—These squares should be set in raspberries in rows four feet apart, these being plowed occasionally will afford them the loose ground they so much delight in, and every one must have observed how they cluster about the roots of drooping shrubbery.

HOUSES.

It is best for the different varieties, to have separate apartments. We prefer a house, with three or four feet underground, capable of being very warm. On the side opposite the door, there should be left a long narrow window for ventilation covered with a stout iron netting, with a broad shutter that may be closed in winter.

The door should open to the south and above it should be another window, covered with netting, with a glazed sash which may be removed in summer. This is for light. The fowls should likewise have a small trap door through which they can have access by means of a plank with straps four or five inches apart.

It is best for the hen house to have a shelter all around it, (at least on the north and south sides, of six or eight feet in width. A curb eighteen inches high should be put up about two feet from the wall, and a second should be filled with dry leached ashes, to afford them a wallow in wet weather; the other space should be filled with a mixture of gravel and lime, both necessary to their thrift. Underneath the shelter, feed and water troughs can be placed in winter.

Nests, of long boxes divided by strips into compartments. of eighteen inches, with a narrow strip of plank at the bottom in front are as good as any. But the most successful poultry house we have ever been in, was a perfect chaos of old boxes, baskets, &c. The hens seemed to avail themselves readily of the cuddles and crannies in this nondescript apartment. We have found it best always to allow the hen to keep and brood in a nest of her own choosing. Always keep on hand a store of dry grass and leaves to fill these nests. They will scatter straw (if you use it) in searching for grain.—Roosts should be provided about two feet apart, and never closer than two feet to the wall.

A Turkey House, need differ from a hen house only in one or two particulars, the roosts should be further apart and the nests larger.

The Ducks can have an apartment, partition-

ed off from the turkey house with nests like the hens and a large water trough.

THE PIGEON HOUSE.

This steeple looking building, on a stout central post, is too well known to need a description. It should be large enough for a trusty person to enter and move around in. The sides are lined with tiers of shelves with low strips in front, and divided into little apartments of a foot in width, which form nice nests. Each nest should be sub-divided by a low partition, as both male and female take care of the young. The pigeon house is placed upon a single post to insure it against depredation from vermin. A step ladder should be kept convenient for access into it. It should be furnished with a box of lime, gravel, sand, and occasionally a handful of salt. Water should also be furnished. The deserted nests should be swept out with a wing and the whole house should be cleaned once a week.

GEESE.

These birds are models of fidelity in their domestic relations, and this is the most we can say of them. They are noisy, dirty and voracious, and we think neither the quality of their meat or their yield of feathers, are a compensation for the trouble they give, except on prairie farms. If kept they will provide for themselves, except in the brooding season when they should remain in the poultry yard. They will provide their own nests, lay ten or twelve eggs, and after four weeks they will bring forth two or three goslings—when half grown they can be turned out with the old geese, where they can find ample support in the barn yard or fields.

Pea fowls and *Guinea fowls*, we have never succeeded in training to any degree of usefulness. They are highly ornamental. The first we discarded on account of their propensity to destroy turkeys. The last we retain, but have turned to the fields. Occasionally there, we stumble on a mine of eggs, and they usually return in the fall with a fine flock of young to their old pine lodge.

We have enumerated everything necessary for the poultry yard except brood and feed coops.

Brood Coops should be made by nailing boards about two feet long together, so as to form a triangle about three feet deep, boarding up the back and nailing laths in front, wide enough apart to permit the chickens to run in and out. Each mother hen should be provided with a separate coop,

Feed Coops should be long boxes some two feet in width, with laths nailed up the sides, just far enough apart to admit of the ingress and egress of the young fowls. The top should raise, so as to put the food in the little boxes that are inside.

FOOD.

In summer we allow only food enough to the grown fowls to habituate them to the yard, but the feed coops of the young should be liberally supplied with soup, bread, soft vegetables; meats, finely minced, curds, &c. In winter all of the fowls should have constant access to abundance of food and water, grain of all kinds occasionally meat. The hens should have a constant supply of meat, strongly seasoned with pepper; for this, the livers, &c., &c., of hogs may be slightly salted and used as often as may be desirable. The insides of the various houses may be white washed spring and fall. They should be swept out weekly, and lime sifted over the floor, and whenever a brood is taken out the nest should be thoroughly cleaned.

It is best to enter the hen house in the afternoon when the laying is over. In the bottom of your egg basket keep a pencil to mark the eggs that you set, also a memorandum of the day.—Allow from fifteen to twenty eggs to a hen, according to the season, always setting two hens at once, that you may give both breeds to one hen. They should be kept in the brood coop a few days when they can be allowed the range of the poultry yard and other grounds if convenient.

Duck eggs we always hatch under hens. When they come out trim off the feathers of their tails close and manage otherwise as chickens.

Turkeys we confine to the poultry yard, during the laying season. Their nests are made in shocks of fodder, provided for the purpose.—The first laying of eggs we usually set under hens and raise as chickens, the second laying we place under the turkey. They must be protected from the damp and kept within the enclosure for three or four weeks, when they may be allowed to range out in the other grounds. To improve the breed of turkeys, procure the finest male from a different stock from your own, allowing one male to every dozen females. Reserve from your hens the largest in your flock for raising from.

VARIETIES.

We prefer of Ducks, the *Poland*; Chickens, *Brahma's* or *Shanghais*. We raise for eating chickens a cross from any common variety. In the summer we discard the common chanticleer and bring into our yard the males of foreign varieties for the purpose of keeping up our stock of hens.

Horticultural Department.

ERRORS IN TREE PLANTING.

In traveling over the country, one is forced to the conclusion that there is a lamentable degree of ignorance among those who plant trees, in regard to the laws of vegetable physiology. We often see whole orchards of young fruit trees just planted from the nursery with all their branches entire. In taking up trees there are very few nurserymen who take the trouble to preserve entire more than half or two-thirds of the roots, and the parts that are cut off are the most important, because they contain the *mouths* by which the tree is fed. It is through the ends of the minute fibrous roots that plants receive their nourishment from the soil in a state of solution. If a tree is deprived of these by violence, it lingers until nature in her efforts restores the injury. Now, while this is the case with all transplanted trees, what is to be done to aid nature in this work of restoration? A tree planted with one half its roots mutilated and gone, and its top entire has lost its balance. The trunk and branch of a healthy tree always contains sufficient vital power to swell its buds and open the first leaves, even without material supply from the roots, but after the buds have thus burst forth, they draw up or pump, (if we may use the term,) the future nourishment for the tree, through the roots from the soil. If the roots from the injury they have received are unable to supply the demand, the leaves will draw upon the vital juices, (the blood,) of the tree, which they exhale in the air, and for want of a further supply the tree lingers and dies. But if the branches are shortened and the number of leaves reduced in proportion to the roots, the leaves exhale no more than the remaining roots can supply—an equilibrium is restored—the circulation goes on healthily and the tree recovers from the injury it has sustained, and by fall it makes a vigorous growth.

Such trees, when planted should have all their surplus branches cut off and the remainder shortened, leaving but three or four buds to each branch of the last years growth.

Another class of tree planters, or the planters of another class of trees, particularly deciduous ornamental trees, such as we frequently see upon the side walks in cities and in lawns around country residences, are very liable to commit an opposite blunder. Trees in these situations require to be large, and whether nursery grown or Maples, Elms, &c., taken from the woods, they are not convenient to handle with the branches on, and with one clean sweep the planter decapitates his victim, leaving not a branch behind. Now, as we have said before, the leaves serve to draw from the soil, through the roots of a tree, the nourishment that is required to build up its trunk and branches. If the buds are all cut off there can be no leaves, until nature in an undue effort creates new ones. This can only be done through the vital powers stored up in the body of the tree, and this is often found insufficient, and the result is alike disastrous as in the case before mentioned.

Besides the office of leaves to supply the tree with food from the soil, they perform another important function, viz: that of *breathing*.—The leaves are to plants what the lungs are to animals. Deprive a tree of its leaves and it can neither breathe nor eat and must necessarily die.

[Written for the Valley Farmer.]

The Western Apple Tree Borer.

I am glad to see you pursuing this vile thief, who is so active in doing his deeds of darkness. He is a burglar, a murderer. I write this as an addendum to your excellent article on the subject, for the purpose of removing an error into which those who read Dr. Fitch's article on the subject may be led, and of giving my experience in regard to newly transplanted trees.

Dr. Fitch says, "The larvæ, when young, appear to have the same habit with most other borers, of keeping their burrow clean by throwing their castings out of it through a small orifice in the bark. They can therefore be discovered, probably, by the new sawdust—like powders which will be found adhering to the outer surface of the bark. Wherever from any particles of the sawdust—like powder appearing externally upon the bark, one of these worms is suspected, it will be easy, at least in young trees, when the bark is thin and smooth, to ascertain by puncturing it with a stiff pin, whether there

is any hollow cavity beneath; and if one is discovered, the bark should be cut away with a knife, until the worm is found and destroyed."

Those who wait to see the sawdust for indications of the presence of the worm will wait too long. I have never seen anything like such an indication. The puncture in the bark is, I think, too small for the ejection of the castings. The external indications are a blackened appearance of the bark, with sometimes a drop of dark colored sap oozing out. The orifice is so small that it would not be noticed without the diseased appearance of the bark. I had never seen any of the worms till my attention was directed to the appearance of the bark on some of my trees. I cut into the bark, and found my knife in the midst of what had the appearance of closely packed sawdust. This I followed with my knife till I came to the ugly flattened yellow "tadpole" that had done all the mischief. The man who supposes that after I had seen the wretch, a long time elapsed before he was bisected by my knife, lies under a mistake. Science has claims, but so has vengeance. Before I had had time to weigh the claims of the the two my impatient knife seemed of itself to decide the matter. But I had afterwards ample opportunities for investigation. One becomes so familiar with the symptoms that a glance at the bark will tell him if the disease exists. There is no need of a pin. If the bark has a suspicious appearance press your finger upon it, and if the worm has been under it, the bark will yield to the pressure. Cut in and follow up the tracks until you find the tree murderer. When you discover that he has almost girdled your Yellow Belleflower or your Jonathan apple-tree, you may then yield to the soft suggestions of pity, and let him alone.

I have found this grub in none but newly transplanted trees. On the same piece of ground I had trees that had been planted three years and trees that had been recently planted out. There was not a trace of the grub on the older trees, while almost all the newly transplanted trees were affected. I planted out some cherry trees last spring, and most of them were attacked by it; some were killed. Some transplanted dogwoods were entirely destroyed. I have seen a grub in only one peach tree. I found a horse chesnut making a poor growth, and on examination discovered that it was almost girdled. Two American mountain ash trees (*Pynis Americanis*) were entirely destroy- All these trees had been recently planted out.

My belief is that no tree in healthy growth is ever injured by it. The beetle examines the various trees, and deposits its eggs in those only which instinct teaches it will not grow so rapidly as to *drown* its young, as an inserted bud is sometimes drowned by the rapid growth of the stock. I observed when the seventeen year locusts were among us, they were particularly fond of recently transplanted trees. On trees in vigorous growth they would attack only the extremities of the branches, while they plowed recently transplanted trees from top to bottom. A friend of mine had a nursery which was growing finely, and when the locusts appeared, he was afraid it would be ruined. But the insects flew over it and passed on to the neighboring forest.

The *moral* of all this is, that those who transplant trees should watch them closely till they attain to vigorous growth.

MISOCHRYSOBOTHRIS.

ABOUT STRAWBERRIES.

EDS. OF THE VALLEY FARMER—*Gentlemen:*—Can you inform me whether there is any means of distinguishing the staminate from the pistillate varieties of the strawberry, besides the flower? This is a matter of some importance, as it would confine one to the blooming season alone, in setting, who wished to pay due regard to the right proportion of the male and female plants, if they can not otherwise be distinguished.

S.

REMARKS:—Most varieties of fruits have certain peculiar characteristics, of leaf, bud, branch, color of the bark, &c., by which the nurserymen, who is familiar with them can distinguish one from the other; for instance, any nurseryman can tell the Pryor's Red apple tree from any others, either by its leaf, the branch or bark, and so of other varieties of apples, pears &c.

Every variety of the strawberry has some peculiarity of growth, either in the leaf or runner by which it can be distinguished by those acquainted with it; but there are no marks that can be relied on to distinguish the sexual character of strawberry plants, as a rule, except by the blossoms.

LAND MEASURE.—Every farmer should have a rod measure, a light staff pole, just sixteen and a half feet long, for measuring land. By a little practice he can learn to step just a rod at five steps, which will answer very well for ordinary farm work. Ascertain the number of rods in width and length of any lot you wish to measure, and multiply one into the other, and divide by one hundred and sixty square rods makes a square acre. If you wish to lay off one acre square, measure thirteen rods upon each side. This lacks one rod of being full measure.

JONATHAN APPLE.

The above is a tolerable representation of this most excellent apple. It originated in Kingston, New York, and is, in that State, classed "very good." It is one of the Eastern varieties of apples that is much improved in size, flavor and appearance in our Western climate. It is of the Spitzenberg family, and with us is not inferior to any of that class. Size medium, form roundish, conical; color red, and on the exposed side deepened into a dark brilliant color; cavity, rather deep; calyx, small, closed; basin deep; flesh, yellowish white, fine grained, juicy, spicy sub-acid. November to February.

Tree small, with slender shoots, becoming drooping, bears young and abundantly.

[For the Valley Farmer.]

A Premium Essay, on the Cultivation of the Grape in Missouri.

PREPARED FOR THE ST. LOUIS AGRICULTURAL AND MECHANICAL ASSOCIATION.

BY GEO. HUSMAN, HERMAN, MO.

Continued from page 121.

DISEASES, INSECTS, AND FROSTS.

The mildew is our most formidable grape disease. It generally appears from the fifth to the fifteenth of June, after abundant rain, and damp, warm weather. I have seen it destroy two-thirds of our grapes, within forty-eight hours. I fully concur in the opinion of Mr. T. F. Allen, of Salem, Mass., as expressed in the Patent Office Report for 1846, to which I refer all wishing information on the subject. He thinks it a parasitic fungus; and recommends sulphur as a remedy. This season we have had a very dry, pure atmosphere, and not a trace of it has been seen. Close summer pruning will do much to prevent it; throwing, as it does, all the strength of the vines into the grapes, and allowing freer circulation of air. It was first perceived in 1849, and has, since that time, generally taken two-thirds of our grapes, except this season, when the atmosphere was altogether different.

The rot generally follows the mildew; I think the mildew is the principle cause of it, as I generally perceive it on berries, whose stems had been injured by the mildew; however, in 1847 and, 48, the grapes rotted, although there was no mildew. The principal cause, all are agreed, is excess of moisture about the roots, and damp, moist weather. Subsoil draining, and close summer pruning will do much to prevent it.

The bitter rot, or speck, generally appears shortly before ripening, but it is neither destructive or common.

Premature dropping of the leaves also affects the grapes very much, as it leaves them exposed to the sun, which often literally scalds them.—Early summer pruning has proved a partial remedy, as the young leaves which come after the first pruning generally remain fresh and healthy long after the principal leaves have dropped. Such berries are affected most, that have been taxed beyond their strength in bearing. Close spring pruning, allowing no more bearing wood than the vine can support, will generally prevent it, at least partially.

The insects most destructive are a small grey or green worm, which feeds on the young shoots and branches, before blossoming. These ought to be destroyed at the first summer pruning. An insect resembling the Curculio, has also frequently been found on the grapes, depositing ova, and destroying the berries. A large brown beetle or bug will also sting the young shoots, causing them to break off; and grasshoppers will often eat off the stems of the grapes, causing them to drop off. About the time of ripening, wasps will sometimes be annoying, sucking the juice of the berries.

Frosts in winter have proved very destructive this season; and it is my opinion that our vines suffer more or less by them every year. I would therefore recommend laying-in, in autumn, in the following manner: Prune your vines to the proper length, then bend them down to the ground along the trellis; and fasten them there, by throwing a spade full of earth on them.—Afterwards, run a plough through the rows, and throw a furrow or two on the vines. In the spring, take them up by running a dung-fork under them, and lifting them up. This is a very simple and expeditious method, and has been done successfully near Galena, Illinois, by Mr. James Soulard and others. It would be much better than trusting to chance to bring a mild winter. Late spring frosts have also injured the vines, in some localities. I would recommend not to tie the vines too early, as they are not so easily hurt by frost when kept in motion by draught of air.

GRAFTING THE VINE.

The following mode of grafting large vines with new and valuable kinds, has been practised by me with great success: From the middle to end of March, dig away the ground around the vine, until you come to a smooth place to insert your graft; then cut off the vine, split it with a sharp knife, and insert one or two grafts, according to the size of the vine, as in common cleft grafting; cutting your graft to two or three eyes, and to a simple wedge where you in-

sert it. Great care must be taken to insert the graft properly, as the inner bark or liber of the vine is very thin, and the success of the operation depends upon a perfect juncture of it in the vine and graft. If the vine is strong, no further bandage is necessary, only press a little moist earth on the wound, and fill up with earth again. Two grafts of the Lenoir inserted thus on a very large old Cape vine, have produced three shoots, one of thirty, the other two of twenty-six feet long, and nine bunches of grapes, the same summer; and the next season, they produced more than half a gallon of excellent must.

LAYERING, TO INCREASE NEW AND RARE KINDS.

In the spring, before the buds shoot, make a bed of fine mould under your vines, then take a cane of last year's growth, prune off all dry wood, and fasten it to the ground by wooden hooks driven into the earth. Let it remain until the buds have sprouted, say six or eight inches long. Then fill fine mould around the shoots, perhaps an inch deep, and after two or three weeks, fill up another inch. They will strike root readily, and make splendid vines for next spring's planting. A vine may thus be increased a hundred fold in a single season. The same is often done with the young shoots during June and July. For this purpose all suckers should be left to grow on the vine you wish to layer; and the end of the leading shoot pinched off to force the laterals into stronger growth. The former method, however, makes the best plants.

VARIETIES OF GRAPES CULTIVATED.

1. The Catawba is as yet generally cultivated, and is an excellent grape in all respects, were it not so liable to mildew and rot. Every one is familiar with this grape, it needs, therefore, no further description. It is an excellent grape, both for the table and for wine. Wine, varying from clear water-color to straw-color and pink, of a fine fruity aroma, making an excellent champagne, and a good dry hock.—It is an abundant bearer in dry seasons, and increases readily from layers and cuttings.

2. Lenoir—an excellent table and good wine grape. Berry, smaller than the Catawba, skin purple and almost black, with little pulp; of a delicious flavor, and very juicy. Bunches large and compact. It is but little subject to mildew and rot, and a most abundant bearer; but is a litt'e tender, and requires to be covered during winter, as suggested before. It has to be increased by layering, as cuttings do not strike root readily. Wine, of a clear straw-color, with a fine flavor, excellent.

3. Norton's Virginia Seedling. Bunches small but compact; berries small, black, and sweet, pulpy. The hardiest of all our grapes, not subject to any diseases; an abundant grower and bearer; only to be increased by layering and grafting. Wine resembling portwine in color and quality; with a strong, peculiar flavor, and will improve by age. The most reliable grape in *all* situations.

4. Missouri Bird's Eye. An agreeable, early grape; bunches medium, loose; berries small, black, pulpy and sweet. A moderate grower and bearer, making a good wine, but not much of it, not liable to mildew and rot.

5. North Carolina. A grape of a peculiar flavor, but said to make good wine. Bunches long, loose; berries large, black, pulpy. A very hardy variety, a strong grower and abundant bearer.

Several varieties are yet under trial, and promise well, as the kinds cultivated by F. Mundo, in Warren county: the Ozark Seedling, Little Ozark, Big Ozark, Winehome, and Illinois or Rockhouse Indian; the last, first cultivated by Dr. Rock, of Waterloo. The following varieties have been discarded, as unworthy of vineyard culture: Cape or Schuylkill Muscadell, Isabella, Ohio, Halifax, Bland's Madeira, Mammoth Catawba. Several Seedlings have also been raised from Catawba seed, but none, as yet, equal to the parent. Much might be done, no doubt, towards raising new and valuable varieties, by hybridizing the Catawba with other good kinds. This is, of course, a laborious and slow proceeding, but one good seedling would richly repay all trouble taken with a hundred, that may not turn out well. I do not believe in acclimatizing foreign varieties.—All trials with them have proved failures so far; our only hope lies in our native varieties, and in raising new kinds from their seed.

MAKING WINE—THE WINE PRESS.

It is made somewhat like a screw cider-press. An iron screw three or four inches in diameter, is used, either in a strong, upright frame, or coming up through the centre of the platform. A strong tight box-platform, six or seven feet square, is made of strong plank two or three inches thick, and six or eight inches high at the sides; wedged between heavy timbers. It ought to slope about two inches to one side, which is left open, and a small spout or gutter is nailed under it, to receive the juice and lead it into a tub. Boards to lay on top of the mashed grapes, and pieces of scantling to lay across to receive the pressure, complete the arrangement. The power is applied by a strong lever attached to the nut or female screw.

GATHERING AND PRESSING THE GRAPES.

The grapes should remain on the vines until very ripe. Pick off all decayed, dry or unripe berries from the branches. Such berries as are not fully ripe, may be put into a separate vessel to make an inferior wine. They may then be bruised in a washingtub, with a wooden pestle, or run through a mill, made for that purpose. I have used Hicock's cider-mill to advantage, by taking off the upper link cylinder. I then empty them into a large receiving or fermenting tub, with a spile on one side to draw off the must or juice. This is covered with a cloth, and the mashed grapes left to undergo a slight fermentation. I generally let them ferment about twenty-four hours, and then draw off the must and press. Some press them immediately, others let them ferment two or three days.—When pressed directly, they will make a light colored, mild, agreeable wine, which will soon be saleable; if fermented longer it will make a wine of a darker color, more aroma, and more

astringency, but which will keep much better, and improve with age. In the whole process of wine making, the utmost cleanliness should be observed.

After fermenting, the grapes are emptied into the press, and pressed several times, until all the juice is extracted. The juice is then filled into clean, sweet casks, in a cool cellar. Should the casks be new, soak them for ten or fifteen days with pure water; they are then scalded out, and fumigated with sulphur. Fill the cask to within three inches of the bung, and lay a vineleaf, with a small sack filled with sand, on the bung-hole. They should then remain until fermentation is over, when they can be filled with must, kept separate for that purpose, and bunged tight.

In February or March the wine will be clear. It should then be racked into clean casks, and bunged tightly. A slight fermentation will ensue, after which it should be racked again, and may then be kept in bottles or casks, as convenient.

STATISTICS.

The cost of establishing a vineyard of course depends much upon the nature of soil, price of labor, etc. I should estimate it, including cost of vines, labor, wood for trellis, etc., until in a bearing state, at $250 per acre. The produce varies extremely, as 1,000 gallons have been made from half an acre; and two years afterward, only 25 gallons were made from the same place. The following returns from a vineyard now under my care, will show the average yield through eight years; none, however, was a really good season:

Bearing season.	Vines in bearing.	Gallons.	Price.
1849, 1st "	1,500	750	$1 25
1850, 2d "	2,000	150	1 25
1851, 3rd "	2,000	500	1 25
1852, 4th "	1,800	210	1 25
1853, 5th "	1,500	580	1 25
1854, 6th "	2,500	750	1 75
1855, 7th "	3,000	230	2 75
1856, 8th "	4,000	150	2 75

The last winter had killed nearly all the fruit buds. Had I covered the vines last fall, I would at least have made 2,000 gallons, as the grapes were entirely free from rot. It takes two men constantly to keep the vineyard properly dressed during the summer, and to do the summer pruning, tying, etc. This vineyard has an eastern aspect close to the Missouri river, and is about a quarter of a mile below Hermann.

I would estimate the whole amount of acres planted with vines, in Hermann and vicinity, at about 150 to 200 acres, but the indifferent seasons we have had, and consequently, the small returns for their labor, have discouraged a great many of our vintners, and many of our vineyards have had but slovenly culture. But I do not hesitate to assert that the culture of the grape, in a good situation, and with proper attention, will pay better than any other branch of agriculture. We have much to learn yet, and will, no doubt, become more proficient, and consequently better paid for our trouble in future.

Some vineyards, not having suffered so much from frost, look truly splendid, and should induce us to renewed exertions; hoping for the best. Therefore, let us all enter the lists in friendly rivalry, and not rest until we have converted our hillsides into smiling vineyards; confident that we will triumph over all obstacles at last.

American Pomological Convention.

Continued from page 124.

Dix.—Introduced by Mr. Walker who thought it a fine pear. Some considered it very fine, others expressed various opinions of it. Recommended as promising well.

Bellissime d' Ete, at the suggestion of Mr. Walker, placed upon the rejected list as unworthy of cultivation.

Bleekers Meadow.—Dr. Brinckle said that this was a pear in the rejected list which he would like to have removed from its position. It was good when house ripened—altogether too good to be on the rejected list. Mr. Prince said it was a seedling of the Seckel, of fine flavor and very produetive. This variety led to a long discussion, and very contrary views were given of it. If ripened in a high temperature it was some times good. Removed from the rejected list.

Passans du Portugal.—Mr. Hovey wished to have it striken from the rejected list. Mr. Reid said the Chencille was a synonyme of this variety. After some further talk it was removed from the rejected list.

At this stage of the proceedings a committee was appointed to report a list of rejected fruits—the report to be submitted at the next session of the convention. Mr. Cabot, of Mass., Chairman; Prince, of N. Y., Berckmans, of N. J., Ernst, of Ohio, Thomas of N. Y., Buist of Pa., and Hovey, of Mass.

The Convention then proceeded to revise the list of

PEARS RECOMMENDED FOR CULTURE ON THE QUINCE STOCK.

Belle Lucrative—Mr. Hovey objected to it. Mr. Reid said it made one of the best trees on Quince. So said Mr. Hooker. Mr. Barry said it succeeded well on Quince. Allowed to remain.

Beurre d' Amalis—The President said this was a fine summer fruit—one of the most profitable. Required to be picked early. Mr. Hovey agreed with the president. Messrs. Reid and Ernst said it did not succeed at the South.

Beurre d' Aremberg—This was regarded by several as a poor grower and was removed from the list.

Long Green of Coxe—This variety led to considerable talk, as to its identity and character.

Napoleon—This pear was not highly recommended. The President stated that it was formerly fair in Boston, but it was rarely so now.

Soldat Labourer—The tree was considered a fine grower, but the fruit was not highly spoken of.

Triomphe de Jodoigne was removed from the list.

[To be Continued.]

The Home Circle.

ESSAYS ON HEALTH---No. 9.

THE SKIN.

The skin covers the body. Its offices are most important. Its most apparent office is protection. It is a guard, stationing ten thousand sentries around the delicate framework and texture of the body. Its second and not less important office is to carry off, through insensible perspiration, a great amount of the refuse or waste matter of the system. It is thickly set with little appertures or pores, from which is constantly exuding the effete matter all the time accumulating within. It probably carries off more than all the other glands of the system. In time of health, a perpetual exhalation goes out from it. If we could see it, it would look like the rays of the sun, or steam rising from boiling water. The moment this exhalation is checked from any cause disease follows. It is absolutely essential to the health of the body. All enclosed within the skin is dependent upon it for health. All within breathes through the skin. Every inward organ would suffocate and die, if the skin failed to give it ventillation.

The skin is deterred from the faithful performance of its duties chiefly in three ways: First, by filth; second by dress; third by cold.

Bodily filthiness obstructs the exhalations from the skin. This process can not go on well unless the body is clean. It soon coats over with an oily, pasty substance if it is not washed or rubbed. This closes up the pores and shuts in that which should come out. Frequent and regular washing, bathing, or rubbing is necessary to the proper action of the skin. Any way to keep the skin clean and clear will accomplish this object. Washing and rubbing with a coarse towel is evidently the easiest and best. Rubbing serves the double purpose of cleansing and giving action to the skin. Everybody should be frequently and well rubbed all over with some slightly rough substance. It does the human as much good as it does the horse.

No article of dress should be confined closely to the skin; it obstructs the exhaling process.—The apparel worn next to the skin should bo so loose as to rub against the skin with every movement of the body, and should be of an open porous nature. It then serves the three-fold purpose of keeping warm, rubbing and ventillating the body. Fresh air should have constant admission to every part of the body. No air should be confined next to the body.

Frequent rubbing, bathing and airing the whole body invigorates the skin and enables it to meet the changes of temperature to which it is exposed, without harm. "Colds" come thro' the skin. A weak skin exposed to a chilly atmosphere, is sure to take cold. The cold atmosphere closes up the pores, shuts in the matter that should come out and throws it back upon the organs which have just cast it off. They are suffocated, as it were; an inward fever follows, which we call a "cold." There is no more common difficulty among people than weakness of skin. Their skins can not bear the changes of temperature to which they are exposed.—They have frequent colds. There are more serious diseases which originate in colds than in any other one cause. A weak skin soon renders the whole body frail.

Take good care of thy skin, Oh man! If thou wouldst enjoy health. Thou canst not with impunity neglect it. There is no other one thing of greater importance to thy physical well-being.

Beautify your Home.

There are two kinds of beauty; one is outward, the other is inward. The outward beauty of home is in pleasant grounds, walks, shrubbery, flowers, trees, rooms, furniture, pictures, and whatsoever can render it agreeable to the eye, and suggest happy and virtuous thoughts to the mind. Of this kind of beauty, we should have much, in and about our houses. A vine arbor, a flower bed, a grass plat, a rose bush, a gravel walk, a shade tree, a pleasant yard, are easily had especially by farmers and villagers. No one with hands and health, should be without such adornments to his home. A child even, can plant a flower seed, or a shrub; and if properly taught and encouraged, will be glad to engage in such pleasant labors. In odd morning and evening hours how much may be done to beautify ones home. If every week adds a little and every year *more*, how *much* will be done, in and about ones dwelling, to give it an air of cheerful beauty. And of all beauty, that which is natural is most to be admired, such as grows, bears and blossoms.

But if outward beauty is within the reach of *all*, how *much more* is inward beauty! In a household, how beautiful is a good husband, wife, brother, sister, father, mother and child. How beautiful are pleasant faces, loving eyes, affectionate words, kind offices, and sympathising hearts. How beautiful are honesty, sincerity, good will, generosity, kindness, sympathy, affection. How beautiful is religion as it speaks

in words of love and prayer, and glows in acts of benevolence and forgiveness. What outward adornment can compare with the grace of a chaste and loving heart, or the charms of a kind and honest life?

Houses are under the control of those who dwell in them. We make our own houses, or help make them. The beauty that is in them or about them is of our own making, at least in part. If they lack beauty, it is our own fault. Beauty, both outward and inward, is within our own reach. It is an attainment we may all possess.

What object in life is more commendable than to beautify our homes? What is home but the spring-source of all that is great and good in human life. Here are born and reared the world's children, its great and good men and women, philosophers, philanthropists, statesmen, scholars and christians. Out from home go all the best and holiest influences that bless mankind. Into the heart of home flow the treasures of the world, the products of its labors.

For home we all live and toil, more than for all else of the earth. Why then should it not be beautified? It is clear to my mind that the best religion in the world is that which grows and thrives best at home; so that out from home go the virtues, loves and spirits that constitute and people heaven. What else then is more glorious to live for than to beautify our homes? In so doing we are sowingseeds which shall grow in heaven. We are planting virtues which shall bear fruit among angels. Then let our homes be beautified both with outward and inward adornments; we shall thereby be better and happier, and goodness and happiness will give us wisdom.

The Little Ones.

Some writer has said that "no household is complete without a cradle and a rocking-chair, a baby and a grandmother." We have often thought that a world without "little ones" would be cold and cheerless enough. We have seen a miniature of such a world in a shaker village, where there are men and women, order, harmony, virtue, religion, plenty and all that makes up a world on a small scale, but children. There are many things in such a village that are pleasant and excellent, but the want of one thing, and that the very thing which many people deem so troublesome, throws a shade over all. The clatter of little feet, the mischief of little hands, the music of little voices, would throw a charm over a shaker village, which would stir all its hearts and give a home-like appearane to all its activities.

There is a beauty in "little ones" the sight of which blesses every beholder. It does one good to see beauty anywhere, but more especially in little children. They are symbols of a spiritual beauty which human eye hath not yet seen.

"Of such is the kingdom of heaven"—should not such then adorn and bless the household—should they not be regarded with a kind of reverence, a kind of joyful religiousness, as little household divinities? What are they? Men and women in miniature; aye more, angels in embryo. Immortal, the image of God, emblems of heaven, a transcript of their parents, sublime and beautiful mysteries sprung up in our homes; flowers whose fruitage no frost of death shall destroy—made to know, aspire and love, how can we behold them, but with thoughts that lean to virtue and truth?

Not half enough do we love children—not many realize their mission. They are heralds of good. They teach us of a divine beauty, both of person and soul, of being and action.—They are not only household adornments, but strictly household divinities.

To have the right idea of children, is the first step toward treating them properly, the first step towards educating them as they should be.—If we regard them as little innovators in our homes, unwelcome guests we can not turn out, expensive, troubles to be got along with at the cheapest rate, incarnations of evil, to be subdued with the command and the rod; snarling brats to be kept in the kitchen and out of sight as much as possible, we shall not be likely to do our duty towards them, or be benefited by them as we might.

We treat everything according to our ideas of its real value. Then how kindly, how lovingly, how wisely should we treat the "little ones." Shall we deceive them, by telling them stories we know to be false? Shall we instruct them in evil by words and examples of anger, petulance and selfishness? Shall the boys learn to swear, smoke, chew, drink, cheat and fight, of their fathers? Shall the girls learn to gossip, deceive, scold, fret, slander and tattle, of their mothers? Shall children learn selfishness, hardness, cruelty and hypocrisy, of older people? Where else can they learn these things?

Children are creatures of education. If brought up among angels they will be angels; if reared among demons they will be such. They catch the examples and spirits of those around them.

Reader, let no child see you do wrong, let no child hear from your lips an angry or a deceitful word. When children are about you, you are sowing seeds in a precious soil.

THE TABLE.

The table is one of the most important parts of every household. It is not only essential to physical good, but pregnant with moral and social lessons. But the tables of all households are not alike. Some are like the barbarian board spread with the roughest fare only to satisfy the physical appetite. Some bear the marks of ignorance and rudeness being spread in disorder and supplied with gross and hurtful food, around which gather in chaotic confusion the half swinish hoard of the family. Some are heavily ladened with good, bad and indifferent food, spread with a half cultured taste and are approached in a half orderly and half disorderly manner by a family bearing marks of a transition state from barbarism to refinement. Some are spread with a refined and artistic taste, supplied with nutritious and wholesome food, prepared with a view to the laws of health and the pleasures of appetite, which is received by the family with quiet and refined social satisfaction. Nothing more surely indicates the state of culture and refinement in a family than its table. If it is set without order, giving the appearance of a shower of food rained on in confusion, and piled up and overloaded at that, and then is partaken of as though it was the first meal ever eaten and the last expected, and as though it must all be eaten in one minute, launched in heedless and unmasticated confusion into craving stomachs, every man, woman and child diving into the soup-bowl, meat plate and bread tray at once, with no head to preside and no hand to direct, it is clear that that family is not so far advanced from barbaric rudeness as is desirable.

We would mention some simple rules which should be observed at every well ordered table:

1st. In setting the table this order should be observed. At one end should be set the tea or coffee dishes, or the dishes that contain the drinks for the meal, with the milk, sugar, spoon-dish, &c.; at the opposite end the soup, meat, vegetables, bread, &c. In the middle should be placed the castor, fruits and condiments. Along the sides chiefly and at the ends if there is sufficient width, should be placed the plates for the family, bottom side up to prevent dust, flies &c., from soiling them, with the knives and forks under them.

2d. When the meats, vegetables, bread and drinks are upon the table and everything ready, the mistress of the table should take her place at the end where the drinks are placed to preside over them; the master of the table at the opposite end to preside over the meats and vegetables, &c., while the rest of the family are seated at the sides. If there are guests present they should always have their places designated to them by the mistress before the family take their seats. As soon as the mistress takes her place and indicates that all is ready, the master should take his place, the guests follow, if any, as soon as invited and their places pointed out, and then the rest of the family come immediately to their seats, each one always occupying the same place at the table. There should be no hesitating, nor hanging back, nor waiting to be asked a second time, nor to be urged. It is uncivil to keep the whole table waiting on one, besides being a breach of etiquette. Neither should there be hot haste to be seated. It should be quietly and as quickly done as can be without confusion.

3d. As soon as all are seated and quiet, is the proper time for a return of thanks to the giver of "our daily food;" then the master should supply all with meats and vegetables, &c., beginning with the female guests farthest from him, then the male guests, then the members of the family, and lastly the mistress. In the meantime the mistress should supply all with drinks, condiments, fruits, &c., beginning with the male guest farthest from her, thenthe females then the older members, and so on, and lastly, the master. None should commence eating till all are served; and none should leave the table till all are through. The eating should be deliberate and graceful, interspersed with pleasant conversation, wit and humor. Nothing offensive to the taste or feelings of any should be said or done at the table; no finding fault with food; no complaining, scolding or insinuating faults; but everything should be said and done politely and courteously.

4th. When all are sufficiently supplied with the coarser foods, the mistress, (either herself or by her servant) should place the pies, cakes or whatever may be used for dessert, upon the table, and with her own hand serve the family. Or if the table is large enough the dessert may be put upon the end of the table where the mistress sits, before the family are seated; but none should be served with dessert till all are ready to receive it.

A table thus ordered and well conducted is one of the refining and elevating influences in a family. It makes eating not a gormandising operation for the satisfaction of animal gluttony; but a rational gratification of a natural appetite, associated with refining social pleasures. There is not an undue waste of time as some industrious farmers or mechanics might fear in thus conducting the table. If it takes a minute or two longer, it is enough pleasanter and more useful to make up for the loss of a little time. Moreover it accustoms the members of the family to ceurtesy and politeness, and by becoming refined and easy of manner at home, it will be a kind of second nature when they go away.—Awkwardness and rudeness will be laid on the shelf. Propriety and refinement will be put on as a natural home garment.

Editor's Table.

The Season and the Crops.

Wheat Crop.—The accounts that come to us from different sections of the country are very various in regard to the prospect of the growing wheat. In some portions of Missouri it is represented as almost an entire failure, while in other sections of the State it promises a fair yield. In Northern and Southern Illinois, wheat is reported as looking well; while in the central portions of the State it is badly winter killed. Many fields will not return the seed. In Indiana the accounts are hardly less various. In some portions of the Wabash valley there is much complaint of winter killed wheat. In Kentucky wheat has suffered less from the severe winter than in the States on the north and west of us. In Michigan the accounts are generally very favorable. From Tennessee and Georgia notices received represent the crop as promising. In those parts of the country around Washington City, including both Virginia and Maryland, unusually encouraging accounts reach us in regard to wheat. From all we can learn at this early date, (April 15,) the wheat crop, taken together throughout the country, promises well; and, if not overtaken by insects or rust, more than an average crop may be expected.

In Missouri, Illinois and Indiana, where wheat is most winter killed, there is a great difference between that which was sown broadcast and that which was put in with the drill. The former being badly killed out, while the drilled wheat, in many places, will make an average crop; and in every instance the drilled wheat promises much the best.

In every part of the West that we have heard, and over which we have traveled, and that is considerable, the present unfavorable condition of the wheat crop is to be attributed mainly to an excess of water in the soil. All soils resting upon a tenacious subsoil should be underdrained, and more especially the flat prairie lands of the West. Prices of land and crops will soon warrant this, and farmers would do well to inform themselves on the subject.

Barley.—In Mason and Fleming counties, and in other sections of Kentucky, the barley has suffered much from the dry cold weather.

The Late Frosts.—On the mornings of the 5th and 6th instant, in this county, (Jefferson, Kentucky,) the mercury fell to 18 deg., and in many other sections of this State and in Tennessee many of the young tobacco plants were killed, rendering the prospect for a full crop somewhat doubtful, as seed was represented to be scarce at the time of planting; and if it was abundant, the frost occurred almost too late to render new sowings available.

Fruit.—Notwithstanding the severe frosts, there is still a prospect of a fair crop of apples generally throughout the country. The blossoms of the pear, plum and cherry that were opened, or nearly opened, were killed; but the later ones, in many sections, are still safe. Most of the best peaches in the level portions of Kentucky, and the northern and central portions of Tennessee, are killed. Some late seedling varieties have thus far weathered the frost.

We will again admonish our friends to cultivate more extensively the small fruits. The strawberry, improved blackberry, raspberry, Houghton's gooseberry, currant and the grape. These seldom, if ever, fail entirely, and should be more widely and more carefully cultivated.

Hog Cholera.—This mysterious and fatal disease yet prevails at some of the distilleries along the Ohio river and at other places. It is still destructive among the farmers in the interior. A correspondent in Kentucky informs us that he has lost over sixty out of a hundred and twenty; one neighbor has lost over a hundred; another has lost over half his herd, and another nearly all of his.

When this scourge will pass away no one can predict; whether it will continue until there is no longer any material to act upon, or whether it will have its period and pass off like epedemics in the human family, remains to be seen. We regret that its presence has not led to more full and thorough investigations into its cause and character. It is said that certain remedies have proved effectual. We give below the following:

Cure for hog cholera, by a resident in Ohio: Two quarts flaxseed boiled in ten gallons of water till the seed is thoroughly cooked; let it stand till cold, then give it to the hogs as fast as they can drink it—turn it down if they refuse to drink. Repeat the dose for a week or so, and it will effect a cure. Pulverized charcoal and sulphur mixed in milk has also proved beneficial.

Another: take a half ounce of assafoetide, disolve in warm water, and mix with meal into a thin slop, and give to the animal.

Great National Trial of Agricultural Machinery.—The committee of the United States Agricultural Society, appointed at the fifth annual meeting, held at the Smithsonian Institution, Washington, D. C., on the 14th of January, 1857, to designate the time and place, and to make all necessary arrangements for a national trial in the field of agricultural implements and machinery, respectfully invite the inventors and manufacturers of all such articles, both in the United States and in foreign countries to participate in a public trial, to be made at Louisville, Ky., under the auspices of the society, commencing Tuesday, the 1st day of September, 1857.

A separate trial of reapers and mowers will be made at the appropriate season; the special arrangements for which, as to time and place, we will announce as soon as the committee determine them.

All articles from foreign countries intended for exhibition, may be consigned to the "Agent of the United States Agricultural Society, Louisville, Ky.," by whom they will be received and stored free of charge.

A circular, containing full particulars as to regulations, premiums, &c., will be issued as soon as prepared by the committee, and will be forwarded to persons who may apply to the Secretary, Henry S. Olcott, American Institute, New York.

Jas. W. White, of Montgomery county, Mo., is a traveling agent to procure subscribers for the Valley Farmer. Money paid to him will be the same as if paid to us.

LICE ON HOGS.—W. H. M——— wishes to be informed the best method to clear hogs of lice. We have generally found one or two spoons full of sulphur to each hog, mixed with the slop of corn meal, and given three times a day, for a day or two, to rid them of these vermin. The sties, or beds, should at once be entirely cleared of their litter, and new and clean bedding provided. This treatment must be repeated once or twice at intervals of two weeks, because a new brood will be hatched from the nits remaining on the animals. Where there are large numbers of hogs kept together, and they are much reduced, more care is sometimes necessary to rid the animals of these parasites. A thorough washing, and then an application of lard and sulphur, or tobacco water, behind the ears, under the fore-legs and flanks, in addition to the sulphur given internally, will be more effectual.

When hogs become very lousy, it may be assumed that they are not in a healthy, thriving condition: for, as Parkinson says, it is evidence of "weakness of blood," and requires stronger food, cleanliness and good care to restore them.

It is said these vermin will sometimes burrow their way into the flesh and come out at the eyes, nostrils or mouth, or have even been known to be voided in the urine.

In any event, they worry the animal and prevent its thriving, and care should at once be taken to exterminate them. At this season of the year all remedies are more effectual.

FAIR OF THE KENTUCKY STATE AGRICULTURAL SOCIETY.—At a meeting of delegates from local Agricultural Societies in Kentucky, with the Directors of the State Society, held in Frankfort, on the third of March, it was determined to hold the second fair of the Kentucky State Agricultural Society, near the city of Henderson, to commence on the second Tuesday in October, 1857. The premium list will be prepared by the committee, and announced in due time.

At the same time the representatives of some of the local societies in the State determined, as near as possible, the time of holding their respective fairs in such order of succession as not to conflict with each other. When these are fully confirmed we will give due notice, and to this end would thank the officers of the several societies for copies of their premium list.

BACKWARD SPRING.—All persons agree that this has been one of the coldest and most backward springs ever experienced in this section of the country. It is feared that much loss will be sustained in consequence of seeds having been put in the ground and remaining there such a length of time without vegetating. Many gardeners about St. Louis have sustained heavy losses by planting largely of early cabbage, which the extreme cold weather has destroyed. We also hear of many complaints that potatoes which have been planted, have been destroyed by severe freezing.—Where the ground has been saturated with water, we have no doubt that the seed of the potato has been greatly injured; but in dry land, where the seed has been sufficiently covered, we think no loss will be sustained, as the earth will take the frost out of the potato without particular injury.

GAPES IN CHICKENS.—We presume it is generally known that this distressing disease known among young chickens called the gapes, is caused by an insect that is bred in, or in some way find lodgment in the windpipe, from which the largest number attacked die, unless relieved by art. A correspondent in the Horticulturist gives the following method as reliable in removing these insects from the hold in their windpipe. He says:

Take a hair from a horse's tail, double it once or twice, if need be, to stiffen it, twist the double hair between your thumb and finger, so as to leave but a small loop at the other end. Now seize the tip of the tongue of the afflicted fowl, and extend it out and downwards, which will enable you to introduce the double horse hair as far down the windpipe as necessary; let the hair untwist, or assist a rotary motion with your thumb and finger, which will entangle the slimy worm, and it will be found on the hair on withdrawing it. Sometimes two or more are brought away at one operation, much to the relief of the sufferer; and when skillfully performed, effects a perfect cure.

We have frequently relieved chickens in this way by using a slim feather; but with a feather, however slim, and with as much care as the person is capable of exercising, it is a rough and severe operation, causing great pain, and frequently death, to the chicken. The use of the horse hair we regard as an important improvement, calculated to give less pain, and is more sure to produce the desired relief.

SOUTHERN AGRICULTURE.—Being essays on the cultivation of corn, hemp, tobacco, wheat, etc., and the best method of renovating the soil, by Adam Beatty, of Kentucky.

In making up a list of books for an agricultural library, which appeared in the February number of the VALLEY FARMER, we omitted to include this excellent work, because we were assured by book sellers of Louisville that it was out of print; but we have since learned that Messrs. C. M. Saxton & Co., agricultural book publishers, New York, have issued a new edition of it, which is received and for sale at the book store of A. Gunter, Louisville, Ky.

The high reputation of the author as an agricultural writer, and the title of the work, sufficiently indicate its great value to the farmers of the South and West.

VINE CULTURE.—In the calendar of operations for March in the vineyard, furnished by Robt. Buchanan, Esq., of Cincinnati, and published in the Horticulturist, it is stated that the cultivation of vine is rapidly on the increase all over the West and Southwest. The uplands of North and South Carolina, Tennessee and Georgia have recently been discovered to be admirably adapted to the growth of the vine. This being the native climate of the Catawba and Izabella varieties, it is not remarkable that they should flourish there. The sale of cuttings and grape roots in Cincinnati alone will be about 1,500,000 of the former, and 300,000 to 400,000 of the latter, during the present season.

DRILLING WHEAT VS. BROADCAST SOWING.—A farmer in Central Illinois wishes to hear the result of the experience of farmers in the West who have used wheat drills, compared with the old method of sowing broadcast. Will our friends communicate the result of their operations in these two methods of seeding.

HOOPER'S WESTERN FRUIT BOOK.—A compendious collection of facts from the notes and experience of successful fruit culturists, arranged for practical use in the orchard and garden, by J. E. Hooper, member of the Cincinnati Horticultural Society, and formerly editor of the Western Farmer and Gardener.

This work, as its name implies, is designed to meet the wants of the western cultivator, and is just such a work as has long been needed. Works that have formerly appeared have generally been by eastern authors, and confined to eastern fruits.

Many of the eastern fruits are greatly improved by introduction into our western soil, while many others are comparatively worthless; while, at the same time, we have many highly valuable varieties of fruit of western origin, the true character of which is not generally known. Hooper's Fruit Book appears fully to supply the great desideratum. It includes all the varieties of note that have been introduced into western cultivation, giving a full description of each, with notes upon their adaptation to our climate and soil, correcting the many existing errors in the nomenclature, which has led to endless confusion, and fully describing the various synonyms.

Every cultivator who designs planting an orchard will find this a most valuable guide in making his selections, and will save many times the value of the book. Published by Moore, Wilstach, Keys & Co., Cincinnati, and for sale by Edwards & Bushnell, No. —, Fourth street, St. Louis, Mo., A. Gunter, 99 Third street, Louisville, Ky. Price $1.

INQUIRE WITHIN FOR ANYTHING YOU WANT TO KNOW; OR, OVER THREE THOUSAND SEVEN HUNDRED FACTS WORTH KNOWING.—Particularly intended as a book for family reference on all subjects connected with domestic economy, and containing the largest and most valuable collection of useful information that has ever been published.

We are indebted to J. M. Crawford, No. 30 and 32 Chestnut street, St. Louis, for a copy of the above work, and it is all that its title indicates. It is almost indispensable to every family. Price $1.

List of the Officers of the (Mo.) Southwestern A. and M. Association.

PRESIDENT—Marcus Boyd.

VICE PRESIDENT—E. M. Campbell, T. G. Newbill and Robert W. Crawford.

DIRECTORS—N. R. Smith, John W. Hancock, S. C. Neville, John H. Miller, R. B. Weaver, R. E. Acock, Peter Hoyl, James S. Raines, J. E. Hollis, Wash. Smith.

SECRETARY—Charles Sheppard.

TREASURER—J. W. D. L. F. Mack.

Officers of the Callaway County (Mo.) Agricultural and Mechanical Soc'y.

DIRECTORS—Will. W. McKinney, President of Board, Charles A. Bailey, George A. Nicholson, Jacob Haddox, Will. Carington, Marshal Gibson, John Sampson, Henry Reno, Joseph Flood.

SECRETARY—Thomas B. Nesbit.

TREASURER—Daniel M. Tucker.

EMINENCE FAIR STOCK SALES.—There will be a public sale of stock at the Eminence show grounds, on Thursday, May 14th, and Wednesday, October 18th, 1857.

Persons intending to sell stock will notify the secretary, W. S. Helm, of the kind and quality of stock they will offer for sale, who will cause notice of the same to be given in the Shelby News before the day of sale.

SALE OF SHORT HORNS—POSTPONEMENT.—In our April number we announced the intention of Mr. Edwin G. Redford, near Paris, Ky., to sell his entire stock of short horn cattle sometime in June next. We are informed by Mr. B. that he has concluded to postpone his sale until the last of August, or the first of September next. The precise time will be duly given in an advertisement in the VALLEY FARMER.

JERUSALEM ARTICHOKE.—Since the publication of the article on this vegetable in our March number, a friend has informed us that any quantity of artichokes for seed may be obtained of Capt. C. F. Bosley, Springfield, Ky. Our notice is too late for this season, but those who wish to make trial of this crop next fall can bear the subject in mind. Our friend has our thanks for the information given.

SUFFOLK PIGS.—One of our subscribers sent us a letter, to be handed to Captain A. Phillips, enquiring the price of his Suffolk pigs. We dropped the letter in the St. Louis post office, but Captain Phillips informs us he has not received it. We have forgotten the address of our correspondent, but here state for his benefit that the price is ten dollars apiece—for pigs about two months old.

EDITORIAL CALL.—We had the pleasure of receiving a call from D. Musgrove, Esq., editor of the Alexandria Delta, who brought us a list of subscribers. We feel gratified for such a call and such favors. The Delta is a well printed, fine looking sheet, and worthy the patronage of the citizens or Northeastern Missouri.

UNION AGRICULTURAL AND MECHANICAL ASSOCIATION.—We have received a copy of the list of premiums of this association which are to be awarded at the next annual fair, to be held near Eminence, Ky., beginning on Tuesday, the 6th day of October, 1857.

PEDIGREE OF VALENTINE 2d, OWNED BY H. L. CALDWELL, ESQ., OF PERRY COUNTY, MO.—Valentine 2d, red, some white, calved November 20, 1855, bred by the United Society of Shakers, Pleasant Hill, Ky., got by Valentine (1060) out of Lady 2d, by Beppo, (256;) Lady 1st, by Comet, (355;) Flower, by Oliver, (2887;) Beauty, by Duroc, (454;) Lady Mundy, by Sam Martin, (2599;) imported Mrs. Motle, by Adam, (717.)

ESTERLY'S PATENT CORN AND COTTON HOEING MACHINE—Patented April 22, 1856. A model of this machine has been exhibited to us, and from its appearance we should judge it would prove an indispensable farm implement, especially where corn is cultivated on a large scale. Our space will not permit us to fully describe it in this number. It is very simple in its construction. It is pulled by a span of horses, one on each side of the row of corn to be hoed or plowed. Two light wheels and a crooked axle are used, to which two

light plows or cultivators are attached working on each side of the row, thoroughly pulverizing the soil and destroying the weeds. The earth can be thrown to or from the row. The machine is guided by a man holding a pair of handles, and is readily adjusted to any desired width, and can always be managed so as to keep the same relative distance from the row, be it ever so crooked. We expect to have one in operation on our farm, in St. Louis county, this season, and if it works well our readers shall know it. County rights are for sale by T. M. Easterly, St. Louis.

MISSOURI TEACHERS ASSOCIATION.—The annual meeting of this association will be held in St. Louis on the 6th, 7th and 8th days of May inst. The hospitalities of the citizens of St. Louis will be extended to all members of the association, and to all teachers from other States attending the meeting. Members of the association, and visitors from other States attending the association, will receive a certificate from the Secretary entitling them to a free return passage on the railroads terminating at St. Louis. This is an important meeting, and every teacher who loves his profession, and desires to excel in it, should by all means be present.

PEDIGREE OF MESSENGER, OWNED BY C. A. CROMWELL, ST. LOUIS, MO.—Messenger, a roan bull, bred by William R. Duncan, of Clarke county, Ky., calved May 18, 1852, got by Duncan's bull, Boston; 1 dam Laura, by David Boon; 2 dam Rebecca, by the imported bull George; 3 d. the imported cow Caroline.

Duncan's Boston was got by Prince Albert; 1 d. Beauty, by Paragon; 2 d. Hannah More, by imported Goldfinder, (2066;) 3 d. imported Bonny Mary. Daniel B. Adelaide.

Prince Albert 2d, bred by Dr. Watts, of Chillicothe, Ohio, by Prince Albert 1st; 1 d. Lady Porter 2d, by Prince Charles, (2461;) 2 d. Lady Paxton 1st, by Comet Halley, (1855;) 3 d. the imported cow Blossom.

A General Law for the Incorporation of County Agricultural Societies in Illinois.

SECTION 1.—Be it enacted by the people of the State of Illinois, represented in the General Assembly, That an Agricultural Society, may be formed in any county of the State, by the voluntary association of any number of legal voters of the same, not less than twenty, who may meet and organize for that purpose, under a constitution and by-laws of their own construction, which they may alter and amend at pleasure; the use and benefit of the same to be alike free to every citizen of the county who is disposed to associate with them under the constitution and by-laws so provided, and in accordance with this act, upon such terms as may be provided.

SEC. 2.—Each county society thus organized, may thereupon be constituted a body corporate and public, under an appropriate name; which name, together with that of the President, Secretary and Treasurer, shall be recorded on the books of the county clerk of the county wherein said society is located; whereupon said society shall be legally constituted, and under this name shall be capable of contracting and being contracted with, suing and being sued, pleading and being impleaded, in all courts of law and equity in this State; and in said county shall have power to sue for and collect all gratuitous subscriptions which are or may be made to such society, and may have a common seal, which they may change at pleasure, and may, in their corporate name, acquire, by purchase or otherwise, and hold real estate, for the use, and to promote the objects of the society, not exceeding, in quantity, at any one time, five hundred acres.

SEC. 3.—Any person who shall, without the permission of the officers of the corporation, enter within any enclosure which may be used by such society as an agricultural or mechanical fair, and any person guilty of disorderly conduct, or such as may interrupt or be prejudicial to the interests of said fair, show or exhibition, whether inside the enclosure for the same, or at any distance within two hundred yards of such enclosure, shall be liable to immediate arrest, and to the payment of five dollars to the association, to be recoverable at suit of said corporation in action for debt, before any Justice of the Peace or other Court in this State.

SEC. 4.—The provisions of the third section of this act are hereby made applicable and legally available to all agricultural societies within the State, whether incorporated or unincorporated, and which desire to take the benefit of the same.

SEC. 5.—This act will be in force from and after its passage.

Approved Feb. 8, 1857.

An Act to aid and encourage County Agricultural Societies in Illinois.

SEC. 1.—Be it enacted by the people of the State of Illinois represented in the General Assembly, That the sum of one hundred dollars is hereby appropriated to the use of each and every agricultural society throughout the State, for the purpose of giving them aid and encouragement in the general object of promoting agricultural improvements; and the Treasurer of this State is hereby authorized and directed, when called upon for that purpose, to pay over to the treasurer or fiscal agent of each County Agricultural Society in the State, the sum of one hundred dollars on receiving his receipt therefor, accompanied by the certificate of the clerk of each county respectively, where such agricultural society is located, that such society is organized; and that such treasurer or fiscal agent is authorized to receive and receipt for money on behalf of the same.

SEC. 2.—The grant of one hundred dollars to each County Agricultural Society as aforesaid, may be demanded and received for the year 1857, by each and every County Agricultural Society that is now duly organized, or that may be organized on or before the first day of June next, and a further sum of one hundred dollars is granted to each County Agricultural Society throughout the State for the year 1858, that is now duly organized, or that may be so organized on or before the first day of June, 1858, and the Treasurer of this State is hereby authorized and directed to pay over the same under the same conditions as provided in the first section of this act.

SEC. 3.—This act is to take effect and be in force after its passage.

Approved, Feb. 12, 1857.

MUSTARD SEED.—As the season for sowing mustard seed is now approaching, it would be well for those who intend to try a few acres, to attend to the following suggestions: The ground should be good, rich, and suitable for hemp; the seed should be the common small black or brown, usually found growing in the fence corners and road sides, sown thin, broad-cast, so as to allow the stalks and tops to spread out to the sun. It ripens gradually, about the first of July in the Middle States. It should be carefully examined every day, when the seeds are about to ripen; for if left to stand after ripening, the pod opens and drops the seed, which will be lost.—Just before the seed become red. or whilst turning a reddish or brown color, the stalks should be cut carefully without shaking, with a reap or hemp hook, and as each armful is cut, it should be gently beaten out on a sheet or wagon cover, so as to save all the seed then ripe, and the stalks laid down as is done with flax or hemp. The next day, or a day or two after, being subject to a hot sun, take out your sheet once again, gather up an armful of the stalks, and again gently beat them out, so as to get all the ripe seed; then stack up the stalks in little piles or shocks over the field, and let them remain in the sun for a few days, until the seeds are fully ripe; for the pod ripens the seed, even after the stalk is cut.

After the seed have been gotten out, they should be sifted and blowed, and thoroughly dried in the sun, when they will be fit for market. Try two or three acres, and follow these rules, and see the result. The pod of the small black or brown mustard (sinapis nigra) is a sort of touch-me-not, and if you wait to cut it and get it in until after it entirely ripens, the pod will open itself, and you will lose the seed.

NEW REAPER AND MOWER.

There is perhaps nothing which gives more gratifying evidence of Agricultural improvement, than the impetus which has of late years been given to the application of machinery to farming purposes. Particularly to the perfection of Reapers and Mowers, is the inventive talent of our country at present directed.

Our attention has just been called to a new machine called "Easterly's Patent Combined Reaper and Mower," invented by GEORGE EASTERLY, of Heart Prairie, Walworth Co., Wis. In a circular before us, the inventor claims a number of advantages over other machines, viz: simplicity of gearing, a means of raising and lowering the Reaper platform, centre draft, and a sickle arrangement on a self-sharpening principle. The machine cuts five feet wide with a common pair of horses.

We have not seen the machine and can not, of course, speak positively as to its merits. We have seen a large number of certificates however, of persons who have used it, who speak in high terms of its efficiency and superiority.

Mr. T. M. Easterly, corner of Fourth and Olive streets, who is agent for this place, informs us that a machine will be sent for trial, to Laramour's Farm, about twelve miles north of St. Louis, near Spanish Pond, where it may be seen in operation during the haying season.

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CATTLE, CATTLE.

I have a few choice Alderney and Jersey Cattle for sale. They are from stock of my own importation and bred with care. Also Suffolk and Chester White Pigs of the best blood. Address JOHN B. POYNTZ,
No. 5 3t. Maysville, Ky.

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Office in St. Louis, South west cor. Chesnut and 2d Sts

Persons residing in Kentucky and contiguous States will address H. P. BYRAM, Louisville, Ky.

SHORT HORNED CATTLE.

&c., &c., &c.

Third Annual Sale at Woodburn Farm.

THIRD DAY OF JUNE, 1857.

OWING to several public events having been appointed for the same time as that originally proposed for my sale, I have been obliged to postpone it till Wednesday, the 3d day of June next. On that day I shall let for twelve months the two aged imported bulls, "Lord John" and "Baron Martin," and sell one aged imported bull, "Grand Master." I will also sell some 28 young bulls, and above 30 head of cows and heifers (some of them imported)—all of the short horned breed. At the same time will be sold some Cotswold ewes and rams, and one imported Southdown ram which I can spare, having bred from him for two years.

The herd from which the calves to be sold have been bred will bear comparison with the best in this country or abroad. Calves sold at my last sale took first prizes at Lexington, Cynthiana, and Louisville fairs in this State and the only one that went to Ohio took the first prize at the State fair at Cleveland; his owner is said to have refused $1,500 for him.

Catalogues will be ready for distribution in the course of a few days and may be had on application to Mr. S. W. Johnson, Spring Station, Woodford county, Ky.

☞ The sale will begin at eleven o'clock.

A. AITCHESON ALEXANDER.

WISNER'S PATENT WASHING

TUBS

This Tub is easily worked, washes rapidly and well, and does not injure the fabric AS MUCH as hand rubbing. By its use every kind of wearing apparel, together with spreads, quilts and blankets, are easily and thoroughly cleansed, and the finest laces are washed without injury.

If wish to lighten the labor and facilitate the process of washing, TRY ONE OF THESE TUBS.

Country rights for sale.

For sale by T. M. EASTERLY,
Daguerrean, 71 S. E. cor. Fourth and Olive sts.
S. S. BRAINERD,
No. 108 North Fourth street.
JOHN J. LOCKE,
No. 105 North Fourth street.
WARNE, CHEEVER & CO.,
No. 29 Main street.

M'CORMICK'S

REAPER, MOWER AND HEMP CUTTER.

I will keep a full supply of the above machines at the warehouse of Mr. Waddingham, No. 260 Main street, I board at the City Hotel, where I may generally be found.

Those wishing information in relation to my Hemp Cutter, can refer to hemp raisers in Saline, Lafayette, Carroll and Pettis counties, where more than fifty were used last year. I will be very thankful for any patronage that may be bestowed on me.

No. 5-2t* J. B. McCORMICK.

MANNY'S PATENT
REAPING AND MOWING MACHINE

MANUFACTURED BY

S. N. & W. H. PURSE,

Ashley, Pike county, Mo.

Having made several valuable improvements in these machines, we now recommend them as being the **best Reapers and Mowers** ever offered to the public. The most important changes made since last season are as follows.

1st. Instead of using the stationary wooden axle as before, the main wheel is fastened on an iron axle, which revolves with the wheel; and the wheel being enlarged, makes the machine of much lighter draft.

2d. The gearing is so arranged that the dirt is prevented from falling on it, so that there is no difficulty about keeping it greased.

3d. The platform is made wider and nearly straight, making it much easier to rake off the grain; also various other changes, all tending to make the machine more easily managed; of lighter draft, and more durable than before.

These machines can be thrown out of gear at any time, and taken from one field to another on their own wheels, without running the cutting apparatus. They can be raised or lowered so as to cut from one inch to thirty inches high, **without stopping the team**—thus avoiding the necessity of going around stumps, stones or other obstructions less than thirty inches high, and can be changed from a reaper to a mower or from a mower to a reaper **in one minute**. All side draft to the team entirely avoided.

We are making two sizes of machines for this season; the large machines will cut a foot wider than those made last season.

Price of 5 foot machines, with 2 sickles.....$135
Price of 6 foot machines, with 2 sickles.....$145

Machines shipped according to order, the purchaser paying cost of transportation from the shop. All orders addressed to the undersigned will meet with prompt attention.

S. N. & W. H. PURSE,
Ashley, Pike county, Mo.

No. 5-3t

HEDGING.

We have about 100 acres planted to Osage Orange in Western Missouri, Iowa, Nebraska and Kansas. Will make hedge fences upon a principle entirely new, that will succeed with or without trimming, possessing five important advantages over the usual system, viz: suffering no injury if frozen down every winter, neither if fire ran through it. Protect stock better against the cold winds, and all the expenses semi-annually, trimming saved. Also not so liable to thin out at bottom. Our nurserymen are authorized to sell plants at $5 per 1000. The purchaser will be furnished directions for planting upon this above principle; also any person wishing hedging done should let the nurseryman know it, that we may see them when we come. We will take in payment where the amount is sufficient to justify it, horses, mules, jacks, jennets, sheep, &c. Plants may be set any time from the falling of the leaf in autumn to the bursting of the bud in Spring. We design planting nurseries in every county and settlement (where thought practicable) in the States and Territories above named, and northern Texas. Will take contracts to hedge when ten miles or over can be had in the same vicinity. Also hedge for part of the land with or without the land being previously enclosed.

Address JOHN D. THOMPSON.
Rural, Jasper Co., Mo.

S. J. MITCHELL'S
PREMIUM LIGTNING RODS.

These superior rods are of Carbonized Encealed Iron, with Electro positive elements combined in the manufacture, thus rendering them equal to copper as conductors. They are ten feet in length, with accurately fitted brass screw connecting joints, an entire new style of metalic attachments for brick or frame buildings; also, insulators of novel and ingenious construction. These insulators are three inches in diameter, and of sufficient strength to prevent the many accidents that occur from the use of the common small insulator. All insulators are marked in large letters, S. J. Mitchell. The whole mounted with a five prong copper point, tipped with platina, twelve inches long, which possesses the power to an extraordinary extent of discharging the opposite elements of the most fearful thunder storm, and embraces the entire perfection of science up to the present time, constituting the most magnificent and perfect SILENT CONDUCTOR ever presented to the public.

☞ Merchants and dealers are requested to call and examine before purchasing elsewhere. All orders addressed to me through the Post-office, or left at the shop, on Twenty-first street, above Franklin Avenue, will be promptly attended to.

no.5, tf. S. J. MITCHELL, St. Louis.

AYRE'S CHERRY PECTORAL.

For the rapid cure of Coughs, Colds, Bronchitis, Hoarseness, Whooping-cough, Asthma and Consumption, is universally known as the best remedy ever yet discovered for every variety of Pulmonary disease. So wide is the field of its usefulness, and so numerous the cases of its cures, that almost every section of the country abounds in persons publicly known, who have been restored from alarming and even desperate diseases of the lungs by its use. When once tried its superiority over every other medicine of its kind, is too apparent to escape observation, and where its virtues are known, the public no longer hesitate what antidote to employ for the distressing and dangerous affections of the pulmonary organs which are incident to our climate. By its timely use many, nay almost all attacks of disease upon the lungs or throat, are arrested and thus are saved many thousands every year from a premature grave. No family should be without it, and those who do neglect to provide themselves with a remedy which wards off this dangerous class of diseases, will have cause to deplore it when it is too late. Proofs of the surprising efficacy of the Cherry Pectoral need not be given to the American people, they have living proofs in every neighborhood. But those who wish to read the statements of those whose whole health has been restored and whose lives have been saved by its use, will find them in my American Almanac, which the agent below named has to furnish gratis to every one.

Prepared by JMES C. AYER, Practical and Analytical Chemist, Lowell, Mass—And sold by BERNARD, ADAMS & Co., St. Louis, and all druggists. mar.3t

NURSERY.

JULIUS MALLINCKRODT, near Augusta, a Port on the Missouri River, St. Charles Co., Mo., has a large supply of Fruit Trees and Plants, for sale this season 1856, '57, consisting of

Winter Apples,	Peaches,	Apricots,
Fall do	Cherries,	Plums,
Summer do	Pears,	Catalpas, &c.

Agency in St. Louis at the
MISSOURI SEED STORE AND AGRICULTURAL WAREHOUSE,
J. & A. LARGUE,
No. 4, North Main Street.